ORDER NO. AVS9911206C8

Service Manual

Colour Monitor

WV-CK1420/WV-CK2020

WV-CK1420

WV-CK2020

SPECIFICATIONS

WV-CK1420

Power Source :	220 - 240V AC, 50Hz
Power Consumption :	Approx. 66W
Screen Size :	371.8mm diagonal tube screen size, 90° deflection
	335.4mm diagonal actual visual size
Horizontal Resolution :	330TV lines at centre
Video Input :	1.0V[p-p] composite/75 , BNC with Auto Termination
Audio Input :	–8dB/Hi-z, RCA standard jack
Speaker Output :	0.7W
Sweep Linearity :	Horizontal: Less than 5%
	Vertical: Less than 5%
Sweep Geometry :	Less than 2%
Ambient Operating Humidity :	Less than 90%
Ambient Operating Temperature :	–10°C - +50°C (14°F - 122°F)
Dimensions :	366(W) x 346(H) x 365(D)mm [14-7/16”(W) x 13-10/16”(H) x 14-6/16”(D)]
Weight :	9.6kg (21.2lbs.)

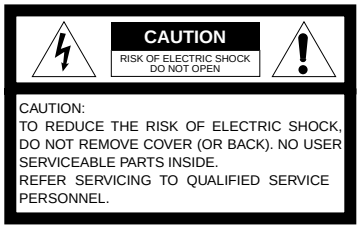
WV-CK2020

Power Source :	220 - 240V AC, 50Hz
Power Consumption :	Approx. 80W
Screen Size :	548mm diagonal tube screen size, 90° deflection
	508mm diagonal actual visual size
Horizontal Resolution :	500TV lines at centre
Video Input :	1.0V[p-p] composite/75 , BNC with Auto Termination

Panasonic

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this has been included. Therefore, it should be read carefully in order to avoid any problems.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are indicated by the "⚠" mark on the schematic diagram and the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-radiation, shock, fire, or other hazards. Do not modify the original design without permission of manufacture.

Audio Input :	–8dB/Hi-z, RCA standard jack
Speaker Output :	0.7W
Sweep Linearity :	Horizontal: Less than 5%
	Vertical: Less than 5%
Sweep Geometry :	Less than 2%
Ambient Operating Humidity :	Less than 90%
Ambient Operating Temperature :	–10°C - +50°C (14°F - 122°F)
Dimensions :	509(W) x 467(H) x 480(D)mm [20-1/16"(W) x 18-6/16"(H) x 18-14/16"(D)]
Weight :	21kg (46.3lbs.)

Weights and dimensions shown are approximate.
Specifications are subject to change without notice.

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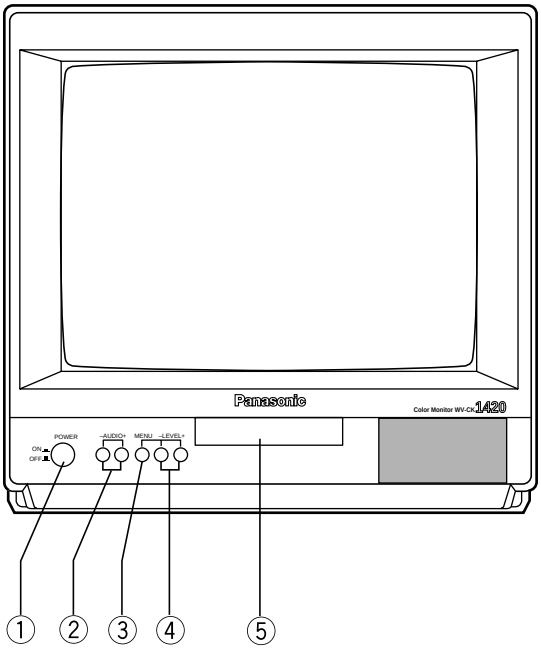
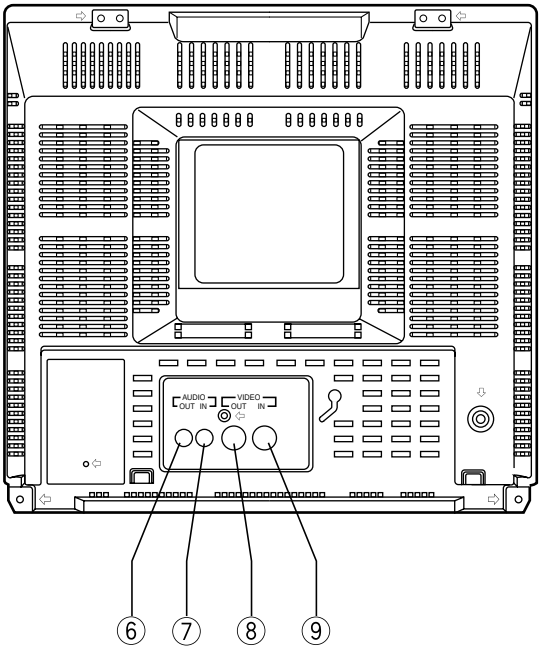
MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS

■ WV-CK1420





1. Power Switch (POWER, ON/OFF)
This is a push-push type switch which turns the power of this monitor on and off.
Press once and the switch remains down (▂) for turning on the power of monitor.
Press again, the switch comes up (▆) for turning off the power of the monitor.

2. Audio Control Buttons (–AUDIO+)
Press these buttons to increase or decrease the sound volume level.

3. Menu Button (MENU)
Press to display the setup display or move the cursor down one line in the setup display.

4. Level Control Button (–LEVEL+)
Press these buttons to adjust level of the selected item in the setup display, or select a parameter in the setup display.

5. Power Indicator
This indicator lights up (red) when the Monitor's power is turned on.

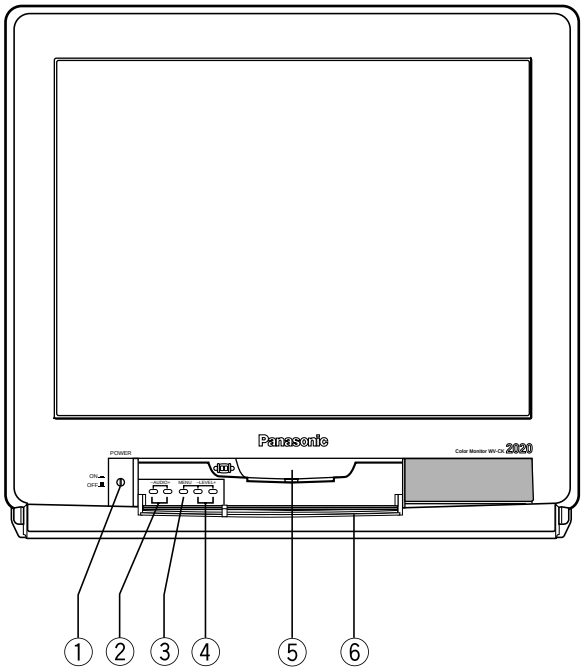
6. Audio Output Connector (AUDIO OUT)
The audio input signal connected to the audio input connector ⑦ is looped through to this connector.

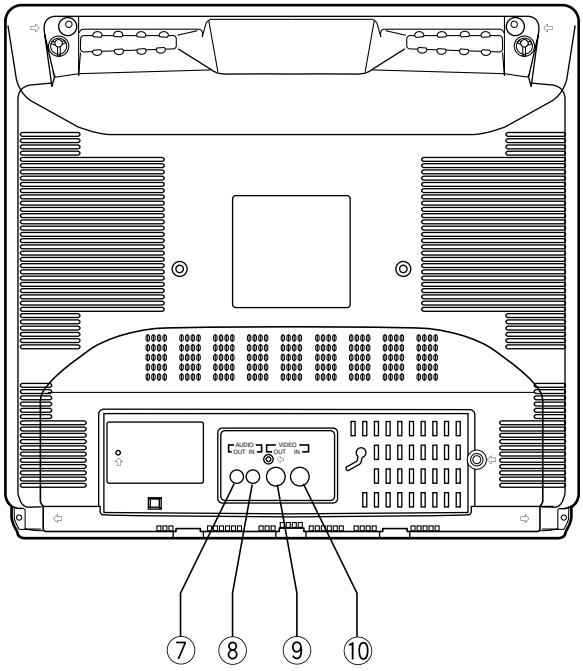
7. Audio Input Connector (AUDIO IN)
For input of audio signal from an outboard device.

8. Video Output Connector (VIDEO OUT)
The video input signal connected to the video input connector ⑨ is looped through to this connector and terminated automatically.

9. Video Input Connector (VIDEO IN)
For input of the PAL composite video signal from an outboard device.

■ WV-CK2020





1. Power Switch (POWER, ON/OFF)
This is a push-push type switch which turns the power of this monitor on and off.
Press once and the switch remains down (▂) for turning on the power of monitor.
Press again, the switch comes up (▉) for turning off the power of the monitor.

2. Audio Control Buttons (–AUDIO+)
Press these buttons to increase or decrease the sound volume level.

3. Menu Button (MENU)
Press to display the setup display or move the cursor down one line in the setup display.

4. Level Control Button (–LEVEL+)
Press these buttons to adjust level of the selected item in the setup display, or select a parameter in the setup display.

5. Power Indicator
This indicator lights up (red) when the Monitor's power is turned on.

6. Control Panel Cover
Press to open for access to the control buttons on the Control Panel.

7. Audio Output Connector (AUDIO OUT)
The audio input signal connected to the audio input connector ⑧ is looped through to this connector.

8. Audio Input Connector (AUDIO IN)
For input of audio signal from an outboard device.

9. Video Output Connector (VIDEO OUT)
The video input signal connected to the video input connector ⑩ is looped through to this connector and terminated automatically.

10. Video Input Connector (VIDEO IN)
For input of the PAL composite video signal from an outboard device.

ADJUSTMENT PROCEDURE

1. Test Equipment Required

- The following equipments are required for adjustment of WV-CK1420 and WV-CK2020 Colour Video Monitors.
- Oscilloscope
- Digital Voltmeter
- TV Signal Generator
- Degaussing Coil
- Tamper Proof Screwdriver

2. Disassembling Procedure for the Adjustment

■ WV-CK1420

- Referring to Fig. 2-1, remove one screw that secure the Cord Holder and remove the Cord Holder.

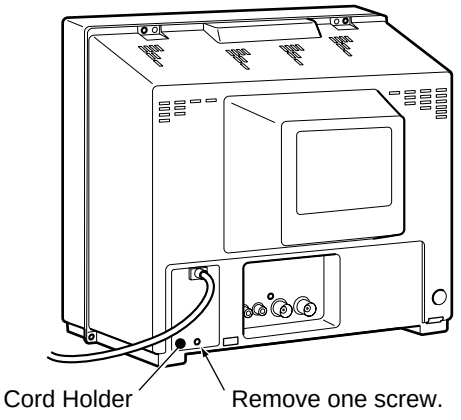


Fig. 2-1

- Referring to Fig. 2-2, remove six screws that secure the Rear Cover and remove the Rear Cover.

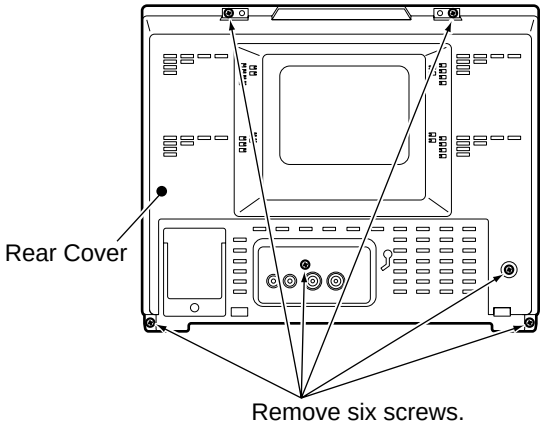


Fig. 2-2

■ WV-CK2020

- Referring to Fig. 2-3, remove one screw that secure the Cord Holder and remove the Cord Holder.

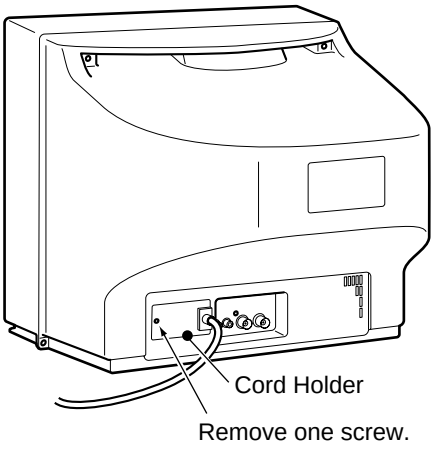


Fig. 2-3

- Referring to Fig. 2-4, remove six screws that secure the Rear Cover and remove the Rear Cover.

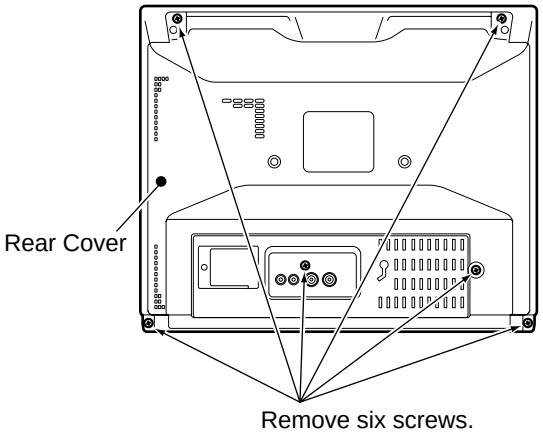
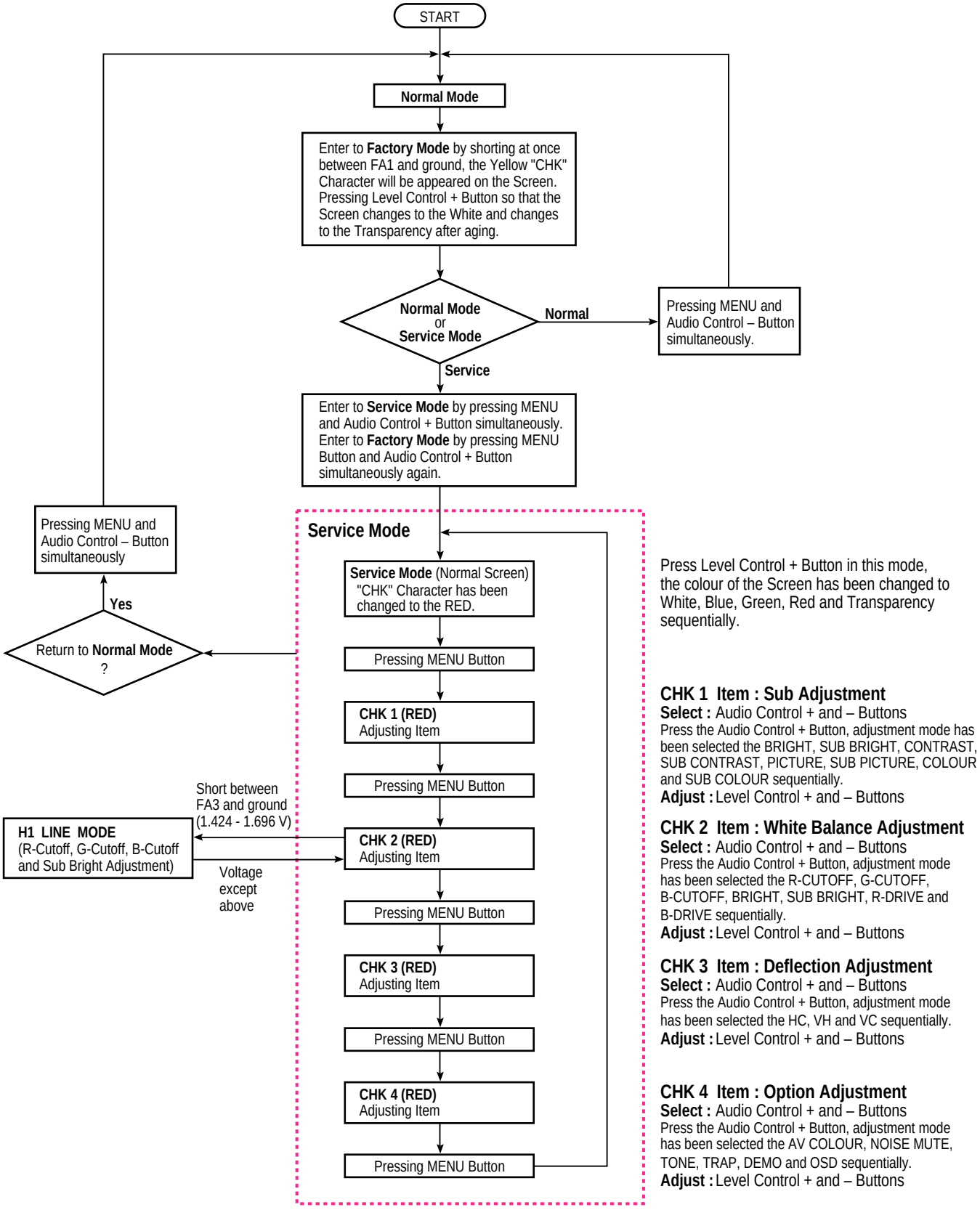


Fig. 2-4

3. Adjustment Flowchart

- The Fig. 3-1 shows the Adjustment Flowchart.


START
Normal Mode
Enter to Factory Mode by shorting at once between FA1 and ground, the Yellow "CHK" Character will be appeared on the Screen. Pressing Level Control + Button so that the Screen changes to the White and changes to the Transparency after aging.
Normal Mode or Service Mode
Normal
Pressing MENU and Audio Control – Button simultaneously.
Service
Enter to Service Mode by pressing MENU and Audio Control + Button simultaneously. Enter to Factory Mode by pressing MENU Button and Audio Control + Button simultaneously again.
Service Mode
Service Mode (Normal Screen) "CHK" Character has been changed to the RED.
Pressing MENU Button
CHK 1 (RED) Adjusting Item
Pressing MENU Button
CHK 2 (RED) Adjusting Item
Pressing MENU Button
CHK 3 (RED) Adjusting Item
Pressing MENU Button
CHK 4 (RED) Adjusting Item
Pressing MENU Button
Short between FA3 and ground (1.424 - 1.696 V)
H1 LINE MODE (R-Cutoff, G-Cutoff, B-Cutoff and Sub Bright Adjustment)
Voltage except above
Return to Normal Mode ?
Yes
Pressing MENU and Audio Control – Button simultaneously

Press Level Control + Button in this mode, the colour of the Screen has been changed to White, Blue, Green, Red and Transparency sequentially.

CHK 1 Item : Sub Adjustment
Select : Audio Control + and – Buttons
Press the Audio Control + Button, adjustment mode has been selected the BRIGHT, SUB BRIGHT, CONTRAST, SUB CONTRAST, PICTURE, SUB PICTURE, COLOUR and SUB COLOUR sequentially.
Adjust : Level Control + and – Buttons

CHK 2 Item : White Balance Adjustment
Select : Audio Control + and – Buttons
Press the Audio Control + Button, adjustment mode has been selected the R-CUTOFF, G-CUTOFF, B-CUTOFF, BRIGHT, SUB BRIGHT, R-DRIVE and B-DRIVE sequentially.
Adjust : Level Control + and – Buttons

CHK 3 Item : Deflection Adjustment
Select : Audio Control + and – Buttons
Press the Audio Control + Button, adjustment mode has been selected the HC, VH and VC sequentially.
Adjust : Level Control + and – Buttons

CHK 4 Item : Option Adjustment
Select : Audio Control + and – Buttons
Press the Audio Control + Button, adjustment mode has been selected the AV COLOUR, NOISE MUTE, TONE, TRAP, DEMO and OSD sequentially.
Adjust : Level Control + and – Buttons

Fig. 3-1

- Short between FA1 and ground at once to set the **FACTORY Mode**, the Yellow "CHK" Character will be displayed on the Screen, and press the **LEVEL CONTROL (+)** Button the Screen changes to the White. The Screen changes to the Transparency after aging.
- Return to the Normal Mode from the **FACTORY Mode** by pressing the **MENU** Button and **AUDIO CONTROL (–)** Button simultaneously.
- Enter to the **SERVICE Mode** from the **FACTORY Mode** by pressing the **MENU** Button and **AUDIO CONTROL (+)** Button simultaneously, the "CHK" Character has been changed to the Red.
- Return to the **FACTORY Mode** from the **SERVICE Mode** by pressing the **MENU** Button and **AUDIO CONTROL (+)** Button simultaneously.
- Return to the Normal Mode from the **SERVICE Mode** by pressing the **MENU** Button and **AUDIO CONTROL (–)** Button simultaneously.
- In the **SERVICE Mode** (Normal Screen), the colour of the Screen has been changed to White, Blue, Green, Red and Transparency sequentially every pressing the **LEVEL CONTROL (+)** Button.
- In the **SERVICE Mode** (Normal Screen), to enter the **CHK1 Mode** by pressing the **MENU** Button and the Adjustment Items will be displayed on the Screen.
- The Bright, Sub Bright, Contrast, Sub Contrast, Picture, Sub Picture, Colour and Sub Colour Adjustments will be done in this mode.
- To enter the **CHK2 Mode** by pressing the **MENU** Button and the Adjustment Items will be displayed on the Screen.
- To enter the **H1 LINE Mode** by shorting the FA3 and ground.
- The R-Cutoff, G-Cutoff, B-Cutoff, Bright, Sub Bright, R-Drive and B-Drive Adjustments will be done in this mode.
- To enter the **CHK3 Mode** by pressing the **MENU** Button and the Adjustment Items will be displayed on the Screen.
- The HC, VH and VC Adjustments will be done in this mode.
- To enter the **CHK4 Mode** by pressing the **MENU** Button and the Adjustment Items will be displayed on the Screen.
- The AV Colour, Noise Mute, Tone, Trap, Demo, OSD Adjustments will be done in this mode.
- Return to the first menu of the **SERVICE Mode** by pressing the **MENU** Button.

4. Connection And Setting Up

4.1. Connection

- The Fig. 4-1 shows the connection diagram for the adjustment procedure.

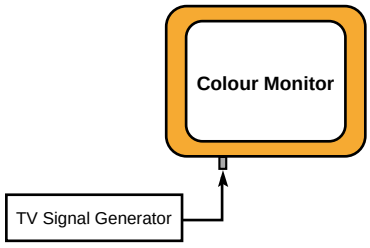


Fig. 4-1

- Connect the coaxial cable between Video Input Connector of the Colour Monitor and Video Output Connector of TV Signal Generator.

4.2. Setting Up

- Turn ON the Power Switch.
- Press the **MENU** Button, the setup Menu will be displayed as shown in Fig. 4-2.

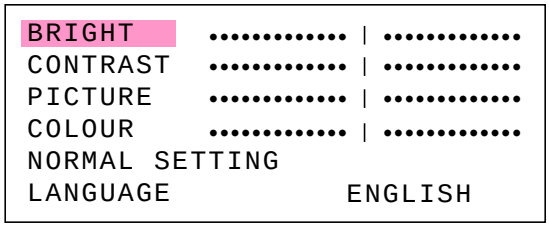


Fig. 4-2

- Select the desired **LANGUAGE** by pressing the **LEVEL CONTROL (–)** or **(+)** Buttons, pressing the Buttons will toggle the Setup display in selected as shown in fig. 4-3.

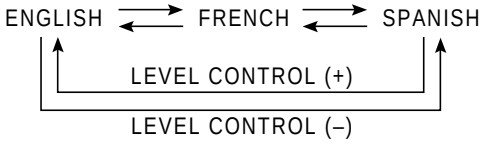


Fig. 4-3

- Move the cursor to the **BRIGHT**, **CONTRAST**, **PICTURE**, **COLOUR** by pressing the **MENU** Button and set all values to **32** (Center position) as an initial setting.

5. Adjustment Procedure

- Refer to the Location of the Test Points and Adjusting Controls on page 9.

(1). Sub Contrast Adjustment

Test Point : **Pin 3 of A11 (G)** **Main Board**
Adjust : **LEVEL CONTROL (+)** **Main Board**
LEVEL CONTROL (–) **Main Board**

- Turn OFF the Power Switch.
- Supply the Colour Bar signal to the Video Input Connector.
- Short between Anode of D504 and ground by jumper wire to stop the ABL.
- Turn ON the Power Switch.
- Set the Service Mode and select the "**CHK 1**" mode.
- Select the **BRIGHT** Item.
- Set the **BRIGHT** Item to the minimum position (0).
- Select the **CONTRAST** Item.
- Set the **CONTRAST** Item to the maximum position (63).
- Connect the Oscilloscope to the pin 3 of Connector A11 on the Main Board.
- Adjust **SUB BRIGHT** so that the signal between Black and White at the pin 3 of A11 does not saturate.
- Adjust **SUB CONTRAST** so that the signal between Black and White at the pin 3 of A11 becomes 3.1 ± 0.1 V.
- Remove jumper wire from Anode of D504 and ground.

(2). Colour Output Adjustment

Test Point : **Q353-C (B) for WV-CK1420**
CRT Socket Board
Q354-C (B) for WV-CK2020
CRT Socket Board
Adjust : **LEVEL CONTROL (+)** **Main Board**
LEVEL CONTROL (–) **Main Board**

- Supply the Colour Bar signal to the Video Input Connector.
- Set the Service Mode and select the "**CHK 1**" mode.
- Select the **BRIGHT** Item.
- Set the **BRIGHT** Item to the minimum position (0).
- Select the **CONTRAST** Item.
- Set the **CONTRAST** Item to the center position (32).
- Select the **PICTURE** Item.
- Set the **PICTURE** Item to the minimum position (0).
- Select the **COLOUR** Item.
- Set the **COLOUR** Item to the enter position (32).
- Connect the Oscilloscope to the Collector of Q353 for WV-CK1420 or Collector of Q354 for WV-CK2020 on the CRT Socket Board.
- Adjust **SUB COLOUR** so that the Colour Output signal becomes 29 ± 1 Vp-p for WV-CK1420/B, 36 ± 1 Vp-p for WV-CK1420/G, 32 ± 1 Vp-p for WV-CK2020/B and 38 ± 1 Vp-p for WV-CK2020/G as shown in Fig. 5-1.

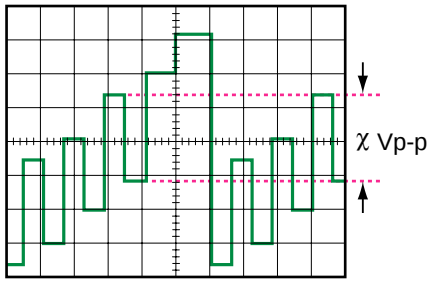
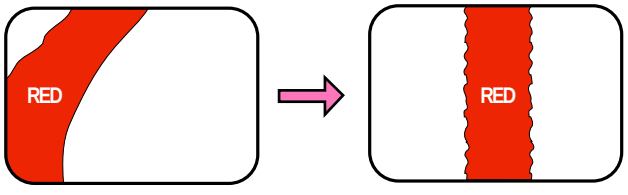


Fig. 5-1

(3). Purity Adjustment

Adjust : **Purity Magnet** **Deflection Coil**
Observe : **Colour Monitor**

- This adjustment should be done after aging for more than 30 minutes.
- Degauss the CRT using a Degaussing Coil.
- Supply the Cross-Hatch signal to the video Input Connector.
- Loosen both Deflection Coil Fixing Screw and Magnet Holding Screw.
- Adjust the Convergence roughly by the Convergence Magnet and Deflection Coil.
- Move Deflection Coil to the rear direction (CRT Socket Board side).
- Supply the Red Colour signal to the video Input Connector.
- Adjust the Purity Magnet so that the Red area comes to the center on the CRT Screen as shown in Fig. 5-2.
- Rotate the deflection coil to find the point where the red colour whose center portion becomes equal on the CRT Screen as shown in Fig 5-2.



NO GOOD **GOOD**

Fig. 5-2

- Move the deflection coil forward until red colour fully occupies the entire screen and tighten the deflection coil fixing screw.

- The magnets holding screw will be fastened after completing next step.

(4). Convergence Adjustment

Adjusts : **Convergence Magnet-1**
Convergence Magnet-2
Observe : **Colour Monitor**

- Supply the Dot signal to the Video Input Connector.
- Adjust the **PICTURE** and **BRIGHT** so that much easy to see the picture on the Screen.
- Adjust the Convergence Magnet-1 as shown in Fig. 5-3 so that red and blue dots on the center area of the CRT Screen is overlapped.
- Adjust the Convergence Magnet-2 as shown in Fig. 5-3 so that the green and magenta (Red + Blue) dots on the center area of the CRT Screen is overlapped (dots becomes White).

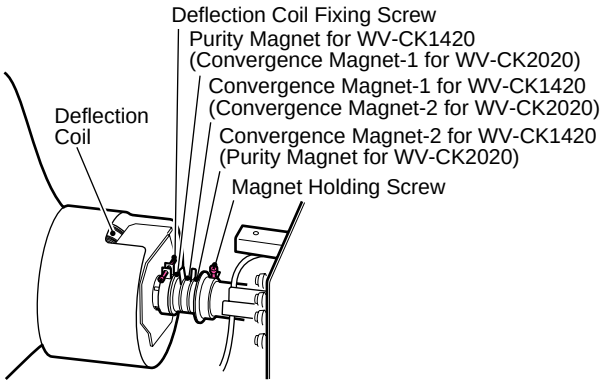


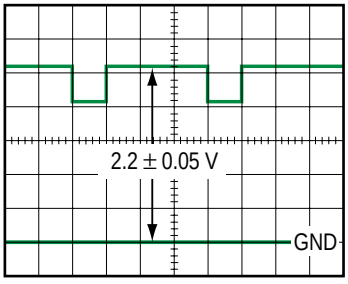
Fig. 5-3

- Change the signal from Dot signal to Cross-Hatch signal.
- If a discrepancy appears at the corner area, slightly adjust the Convergence Magnets 1 and 2.
- Repeat above adjustment (Convergence Magnets 1 and 2) until no discrepancy appears on the entire screen.
- Tighten the Magnets Holding Screw.

(5). White Balance Adjustment

Test Point : **Pin 3 of A11 (G)** **Main Board**
KG (Cathode of Green) **CRT Socket Board**
Adjust : **SCREEN Control**
Flyback Transformer on the Main Board
LEVEL CONTROL (+) **Main Board**
LEVEL CONTROL (–) **Main Board**
Observe : **Colour Monitor**

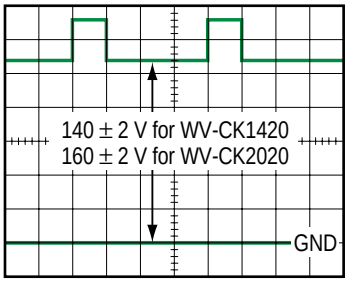
- Supply the Monoscope signal to the Video Input Connector.
- Set the Service Mode and select the "**CHK 1**" mode.
- Select the **BRIGHT** Item.
- Set the **BRIGHT** Item to the center position (32).
- Select the **CONTRAST** Item.
- Set the **CONTRAST** Item to the maximum position (63).
- Select the **PICTURE** Item.
- Set the **PICTURE** Item to the center position (32).
- Select the **COLOUR** Item.
- Set the **COLOUR** Item to the center position (32).
- Select the "**CHK 2" Mode**.
- Select **SUB BRIGHT** Item.
- Set the **R-CUTOFF** to (0), **G-CUTOFF** to (125) and **B-CUTOFF** to (0).
- Set the **R-DRIVE** to (40) and **B-DRIVE** to (40).
- Short between FA3 and ground by jumper wire.
- Set the **SCREEN** Control of the Flyback Transformer to fully counterclockwise direction.
- Connect the Oscilloscope to the pin 3 of Connector A11 on the Main Board.
- Adjust the **SUB BRIGHT** so that the voltage at the pin 3 of A11 becomes 2.2 ± 0.05 V DC as shown in Fig. 5-4.



Adjust center of scanning periode.

Fig. 5-4

- Remove the jumper wire from FA3 and ground.
- Set the **SCREEN** Control to clockwise direction for illuminating the Screen.
- Select the **G-CUTOFF** mode, short between FA3 and ground by jumper wire.
- Set the **SCREEN** Control to fully counterclockwise direction again.
- Connect the Oscilloscope to the Cathode of the Green on the CRT Socket Board.
- Adjust the **SUB BRIGHT** so that the voltage at the Cathode of the Green becomes 140 ± 2 V DC for WV-CK1420, 160 ± 2 V DC for WV-CK2020 as shown in Fig. 5-5.



Adjust center of scanning periode.

Fig. 5-5

- Turn the **SCREEN** Control slowly, and fix the green becomes just illuminated point.
- Adjust the other two low-lights so that the horizontal line becomes white.
- Remove the jumper wire from FA3 and ground.
- Adjust the **R-DRIVE** and **B-DRIVE** so that the most highest portion becomes White.

(6). HC, VC and VH Adjustment

Adjust : **LEVEL CONTROL (+)** **Main Board**
LEVEL CONTROL (–) **Main Board**

Observe : **Colour Monitor**

- Set the "**CHK 3" Mode**.
- Supply the Monoscope signal to the Video Input Connector.
- Select the **HC** Item.
- Adjust the **HC** Data so that the Horizontal Position becomes center.
- Select the **VC** Item.
- Adjust the **VC** Data so that the Vertical Position becomes center.
- Select the **VH** Item.
- Adjust the **VH** Data so that the full Vertical Height becomes plus 8 % overscanning.

(7). Sub Bright Adjustment

Adjust : **LEVEL CONTROL (+)** **Main Board**
LEVEL CONTROL (–) **Main Board**

Observe : **Colour Monitor**

- Turn ON the Power Switch.
- Set the "**CHK 1**" **Mode**.
- Select the **BRIGHT** Item.
- Set the **BRIGHT** Item to the center position (32).
- Select the **CONTRAST** Item.
- Set the **CONTRAST** Item to the center position (32).
- Select the **PICTURE** Item.
- Set the **PICTURE** Item to the center position (32).
- Supply the Black Level Pattern signal to the Video Input Connector.
- Adjust **SUB BRIGHT** Data so that the second portion becomes slightly lit as shown in Fig. 5-6.

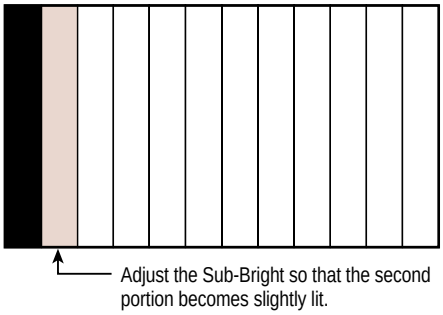


Fig. 5-6

(8). Focus Adjustment

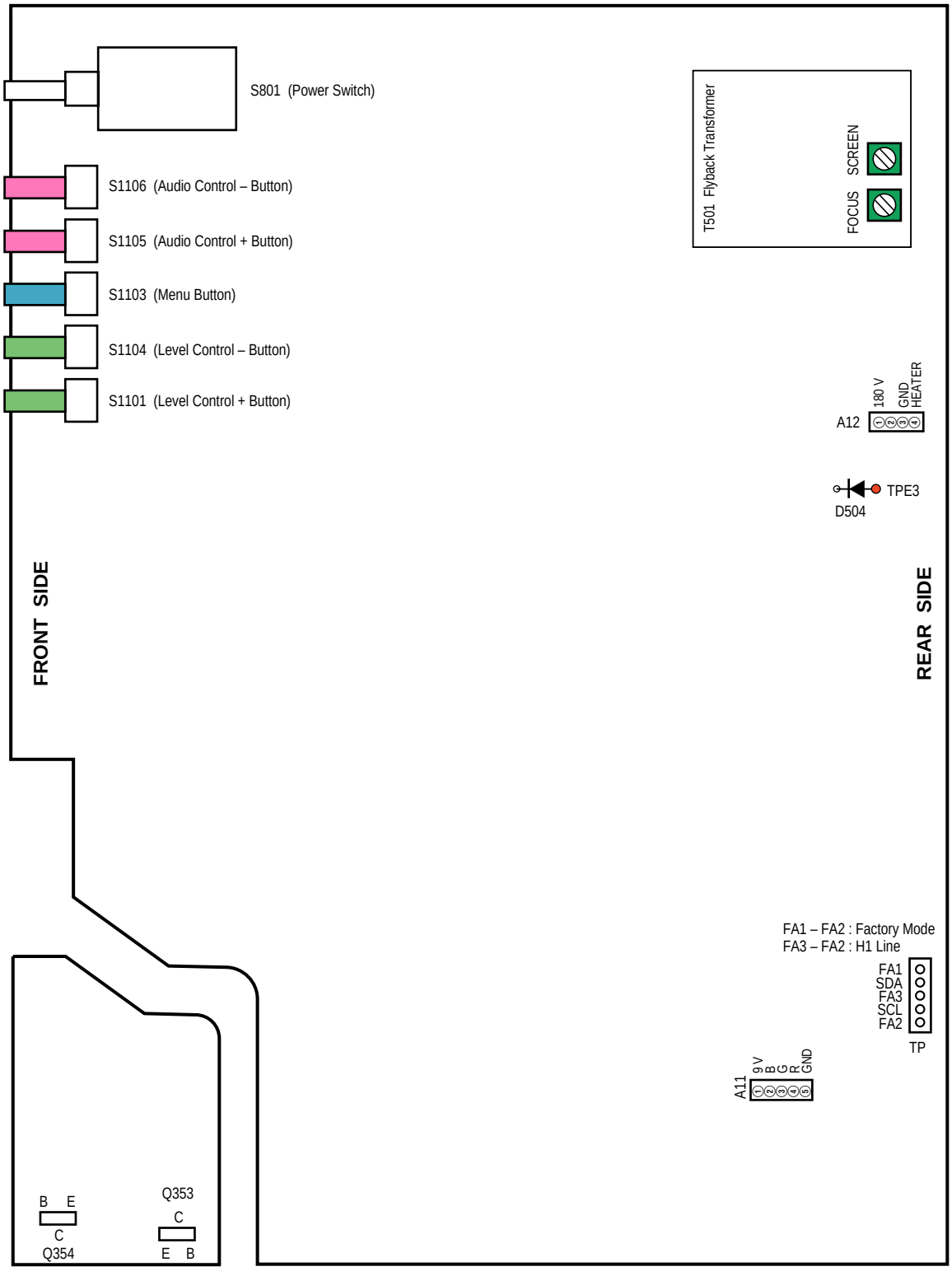
Adjust : **FOCUS Control**
Flyback Transformer on the Main Board

Observe : **Colour Monitor**

- Supply the Dot signal or Cross-Hatch signal to the Video Input Connector.
- Adjust the **FOCUS** Control on the Flyback Transformer to best focal point.

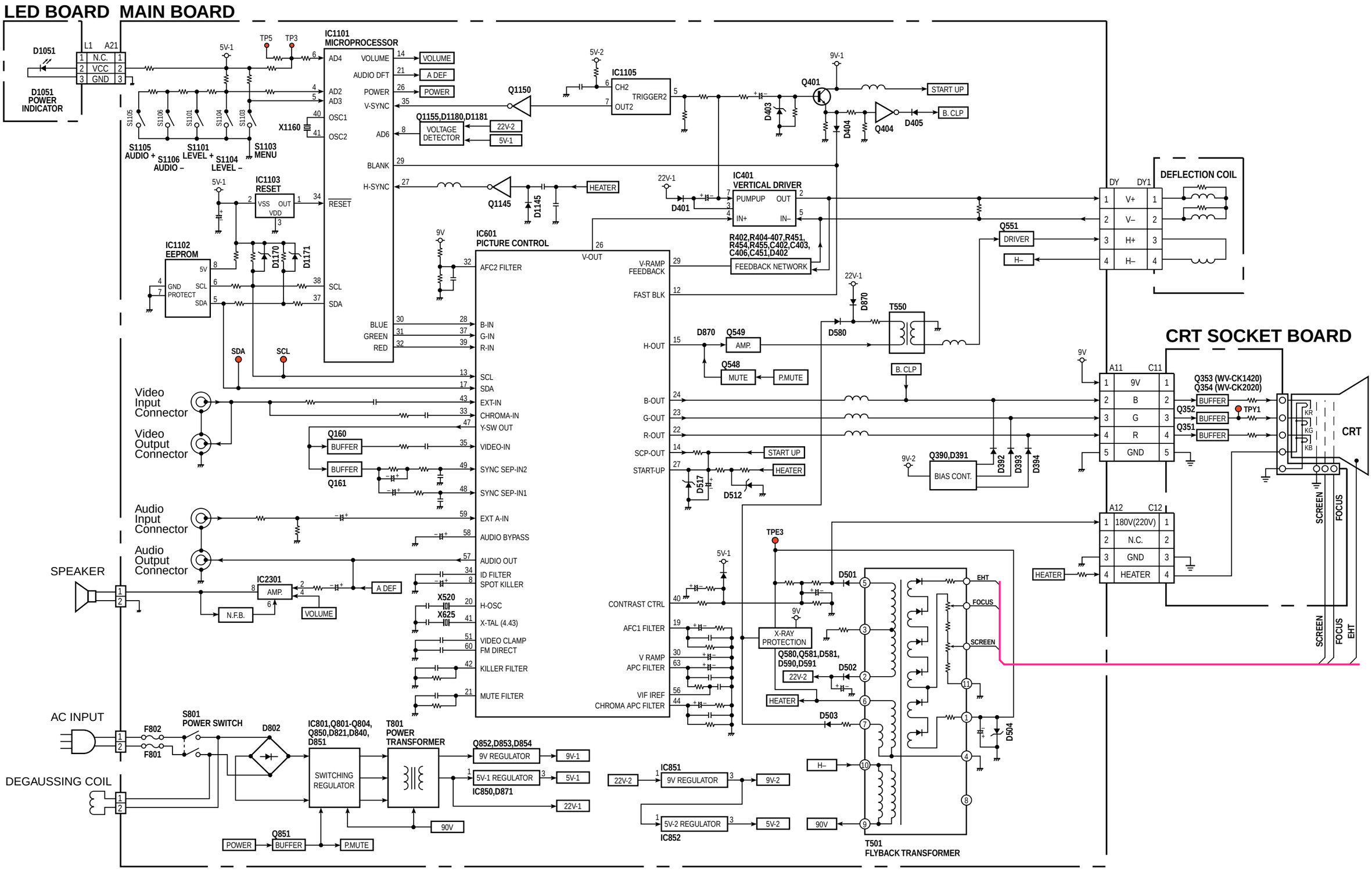
LOCATION OF TEST POINTS AND ADJUSTING CONTROLS

MAIN BOARD (COMPONENT SIDE)



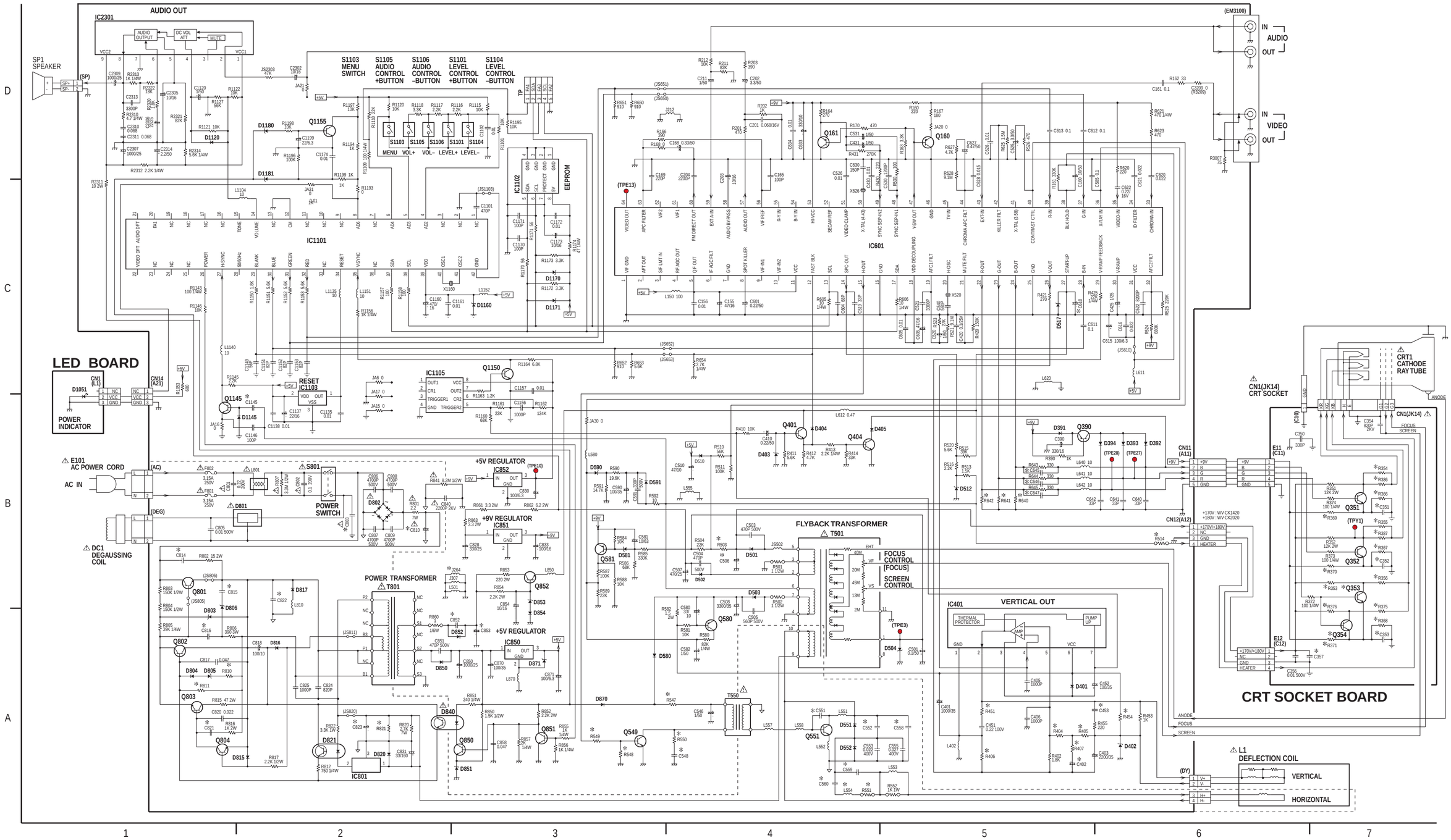
CRT SOCKET BOARD (COMPONENT SIDE)

BLOCK DIAGRAM

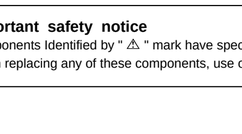


SCHEMATIC DIAGRAM

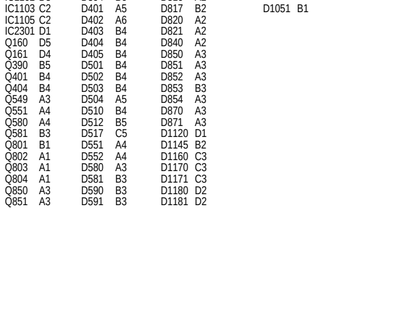
MAIN BOARD



LED BOARD



CRT SOCKET BOARD



* marked parts of the Main Board are shown in below.

MODEL	R404	R405	R406	R407	R451	R454	R503	R514	R547	R548	R549	R550	R551	R640	R641	R642	R810	R811	R821	C402	C453	C506	C548	C551	C552	C558	C559	C560	C610	C645	C646	C647	C803	C810	C814	C815	C816	C821	C822	C823	C852	C853	C1145	L554	J264
WV-CK1420	2.2K	620	2.2 1W	560	2.2 1W	750 1/4W	180K 1/4W	2.7 2W	100 2W	1K	2.2K	470 2W	OPEN	820	820	820	12K 1/4W	1.8K 1/2W	15K 2W	10/35	0.033 50V	10/250	0.012	220P 2KV	0.012 1.2KV	1500P 2KV	0.56 500V	OPEN	470/10	68P	68P	68P	470P 2KV	270/200	1500P 2KV	0.15	0.01	0.022	2200P 2KV	680/160	2200P 500V	220/50	680P	OPEN	OPEN
WV-CK2020	2.4K	330	1.5 1W	120	4.7 1W	1K 1/4W	178K 1/4W	1.2 2W	36 2W	820	1.2K	330 2W	100 1/2W	1.5K	1.5K	1.5K	10K 1/4W	2K 1/2W	8.2K 3W	33/35	6800P 50V	22/250	0.047	470P 2KV	0.015 1.2KV	4700P 1.2KV	0.82 500V	0.47 500V	1000/10	82P	82P	82P	220P 2KV	330/200	1000P 2KV	0.22	0.033	0.027	820P 2KV	1000/160	470P 2KV	470/50	68P	MOUNT	MOUNT

* marked parts of the CRT Socket Board are shown in below.

MODEL	Q353	Q354	R353	R354	R355	R356	R366	R367	R368	R369	R370	R371	R375	R376	R386	R387	C351	C352	C353	C357
WV-CK1420	MOUNT	OPEN	12K 2W	2.7K 1W	2.7K 1W	2.7K 1W	390 1/4W	390 1/4W	390 1/4W	5.6K 1/4W	5.6K 1/4W	5.6K 1/4W	OPEN	OPEN	OPEN	OPEN	390P	330P	390P	OPEN
WV-CK2020	OPEN	MOUNT	OPEN	OPEN	OPEN	OPEN	330 1/4W	330 1/4W	330 1/4W	3.3K 1/4W	3.3K 1/4W	3.3K 1/4W	2.7K 1/2W	12K 2W	2.7K 1/2W	2.7K 1/2W	560P	470P	560P	0.022 200V

Important safety notice

Components Identified by " ⚠ " mark have special characteristics for safety.
When replacing any of these components, use only manufacturer's specified parts.

< INDEX > MAIN BOARD

IC401 A5, IC601 C4, IC801 A2, IC850 A3, IC851 B3, IC852 B3, IC1101 C2, IC1102 D3, IC1103 C2, IC1105 C2, IC2301 D1, Q160 D5, Q161 D4, Q390 B5, Q401 B4, Q404 B4, Q549 A3, Q551 A4, Q580 A4, Q581 B3, Q801 B1, Q802 A1, Q803 A1, Q804 A1, Q850 A3, Q851 A3, Q852 B3, Q1145 B1, Q1150 C3, Q1155 D2, D391 B5, D392 B6, D393 B6, D394 B6, D401 A5, D402 A6, D403 B4, D404 B4, D405 B4, D501 B4, D502 B4, D503 B4, D504 A5, D510 B4, D512 B5, D517 C5, D551 A4, D552 A4, D580 A3, D581 B3, D590 B3, D591 B3, D801 B2, D802 B2, D803 A1, D804 A1, D805 A1, D806 B2, D815 A2, D816 A2, D817 B2, D820 A2, D821 A2, D840 A2, D850 A3, D851 A3, D852 A3, D853 B3, D854 A3, D870 A3, D871 A3, D1120 D1, D1145 B2, D1160 C3, D1170 C3, D1171 C3, D1180 D2, D1181 D2

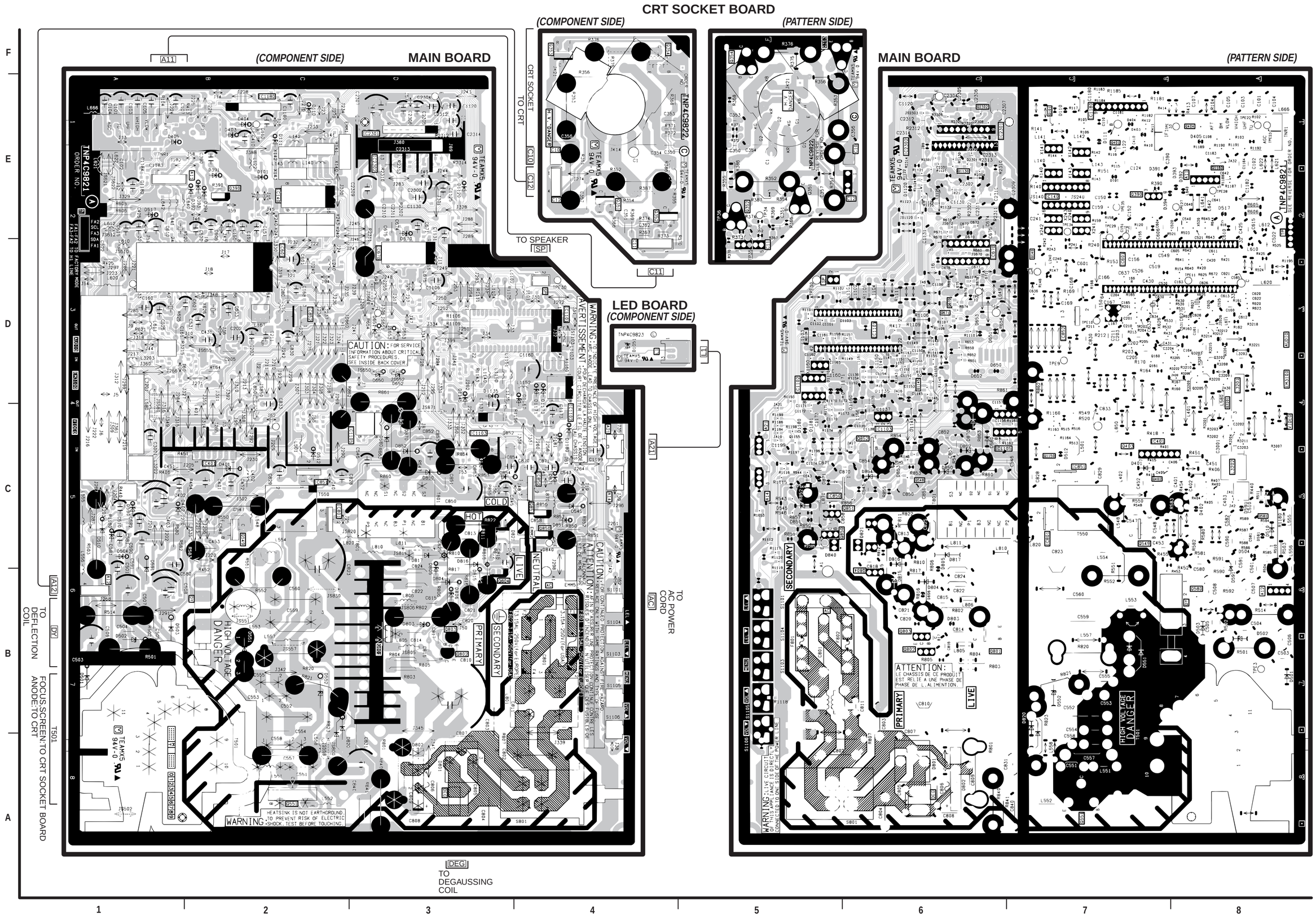
< INDEX > CRT SOCKET BOARD

Q351 B7, Q352 B7, Q353 B7, Q354 A7

< INDEX > LED BOARD

D1051 B1

CONDUCTOR VIEW


CRT SOCKET BOARD
(COMPONENT SIDE)
(PATTERN SIDE)
CRT SOCKET TO CRT
MAIN BOARD
(COMPONENT SIDE)
MAIN BOARD
(PATTERN SIDE)
LED BOARD
(COMPONENT SIDE)
TO SPEAKER
TO AC POWER CORD
TO DEFLECTION COIL
FOCUS:SCREEN:TO CRT SOCKET BOARD ANODE:TO CRT
TO DEGAUSSING COIL
CAUTION: FOR SERVICE INFORMATION ABOUT CRITICAL SAFETY PROCEDURES, SEE INSIDE BACK COVER.
AVERTISSEMENT: POUR RENSEIGNEMENTS SUR LES PIECES CRITIQUES, VOIR L'INTERIEUR DE LA COUVERTURE ARRIERE.
WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
ATTENTION: POUR CONTINUER LA PROTECTION CONTRE LES RISQUES D'INCENDIE, N'UTILISER QUE DES FUSIBLES DE RECHANGE DE MEME TYPE.
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE FUSE.
3.15A, 250V (for USA)
3.15A, 250V (for U.K.)
PRIMARY
SECONDARY
HOT
COLD
LIVE
NEUTRAL
HIGH VOLTAGE DANGER
ATTENTION: LE CHASSIS DE CE PRODUIT EST RELIE A UNE PHASE DE PHASE DE L'ALIMENTION.
WARNING: SHOCK HAZARD - CHASSIS IS CONNECTED TO ONE SIDE OF THE POWER LINE
HEATSINK IS NOT EARTHGROUND. TO PREVENT RISK OF ELECTRIC SHOCK, TEST BEFORE TOUCHING.
TNP4C9821
TNP4C9822
TEAMXS 94V-0

< INDEX >
MAIN BOARD

IC401	C2	IC1105	C3	Q580	B8	Q1145	D6	D403	E2	D517	E1	D803	B3	D840	C4	D840	C4	D1145	D3
IC601	D2	IC2301	E3	Q581	C8	Q1150	C7	D404	E2	D551	B2	D804	B3	D850	C3	D850	C3	D1160	D4
IC801	C2	Q160	D7	Q801	B3	Q1155	C5	D405	E1	D552	B2	D805	C3	D851	C4	D851	C4	D1170	D4
IC850	C4	Q161	D7	Q802	B3	D391	E2	D501	B1	D580	C3	D806	B3	D852	C3	D852	C3	D1171	D4
IC851	C2	Q390	E2	Q803	B3	D392	E2	D502	B1	D581	C1	D815	B3	D815	B3	D853	C3	D1180	C4
IC852	D2	Q401	E7	Q804	B3	D393	E2	D503	B1	D590	C1	D816	C3	D816	C3	D854	C3	D1181	C4
IC1101	D4	Q404	E8	Q850	C4	D394	E2	D504	C1	D591	C1	D817	C3	D817	C3	D870	C3		
IC1102	D4	Q549	C2	Q851	C4	D401	C2	D510	C1	D801	A3	D820	A2	D820	A2	D871	C4		
IC1103	C3	Q551	A2	Q852	C3	D402	C1	D512	C2	D802	A3	D821	C3	D821	C3	D1120	E3		

< INDEX >
CRT SOCKET BOARD

Q351	E4
Q352	E4
Q353	F4
Q354	F4

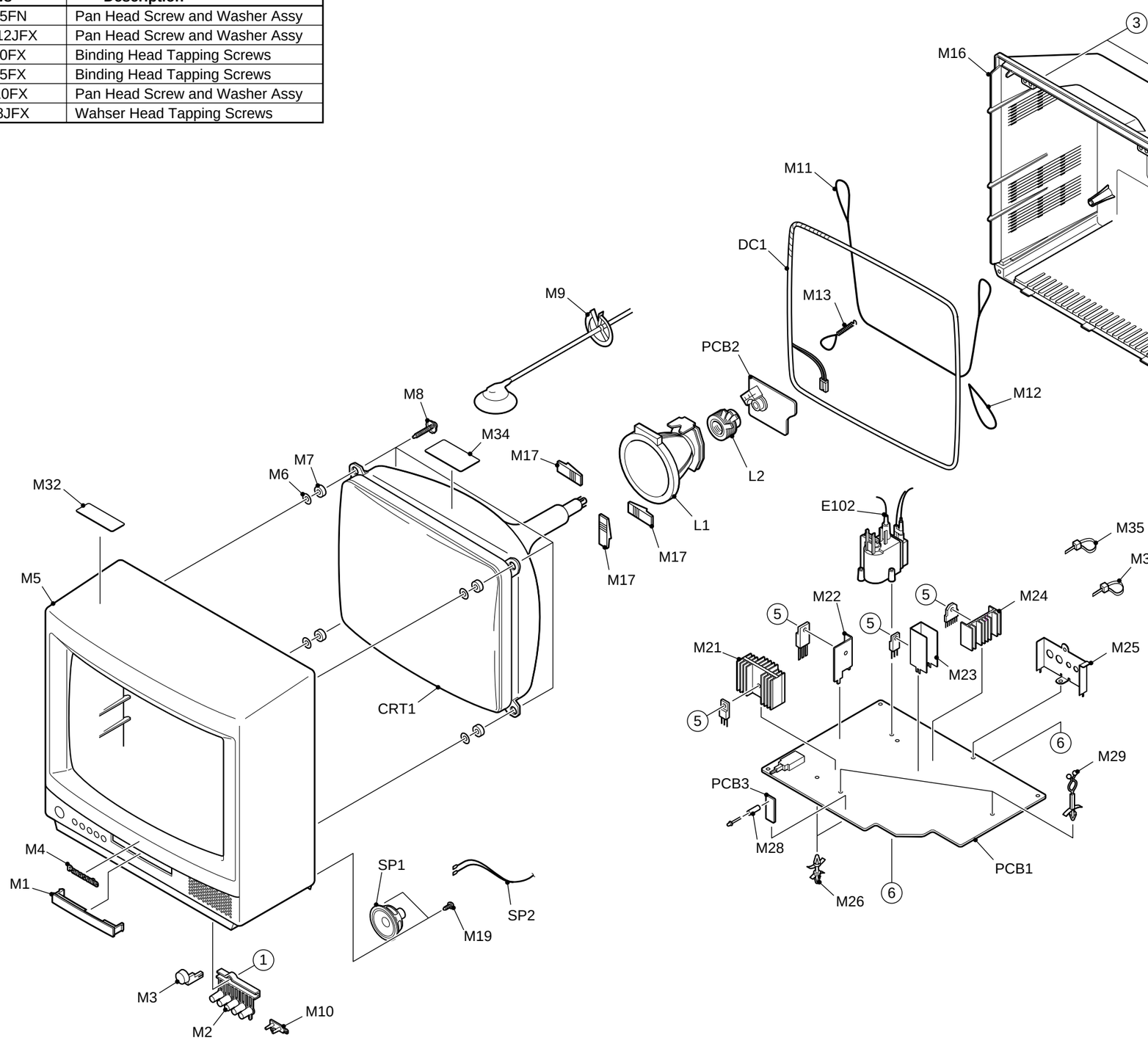
< INDEX >
LED BOARD

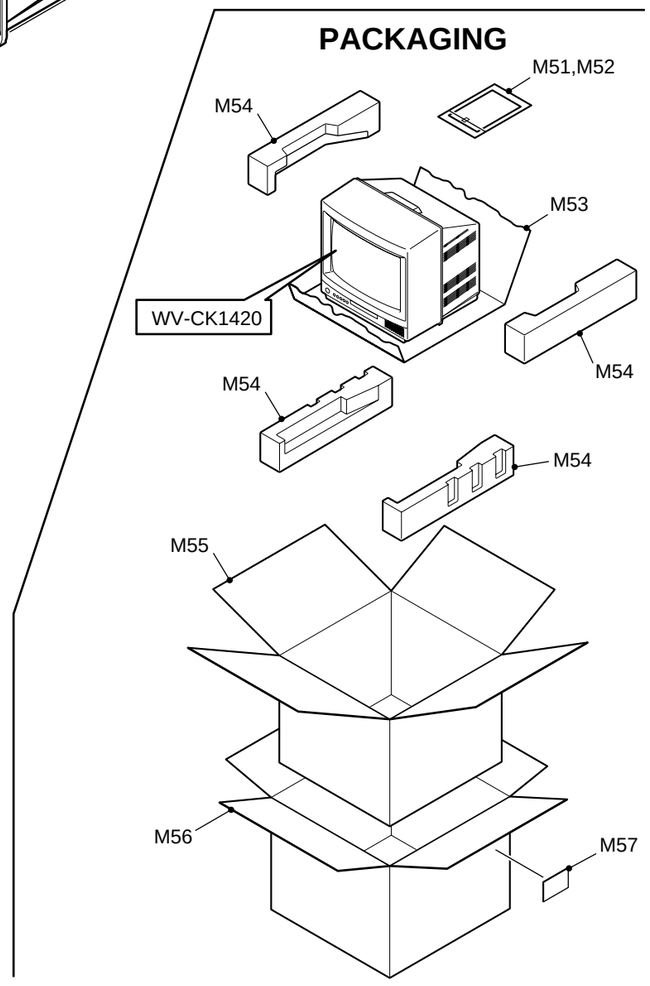
D1051	D4

EXPLODED VIEW OF WV-CK1420

◯Numbers show screws, washers, nuts and etc.

No.	Screws	Description
①	XTB4+15FN	Pan Head Screw and Washer Assy
②	XTW3+12JFX	Pan Head Screw and Washer Assy
③	XTB4+20FX	Binding Head Tapping Screws
④	XTB4+15FX	Binding Head Tapping Screws
⑤	XYN3+10FX	Pan Head Screw and Washer Assy
⑥	XTW3+8JFX	Wahser Head Tapping Screws

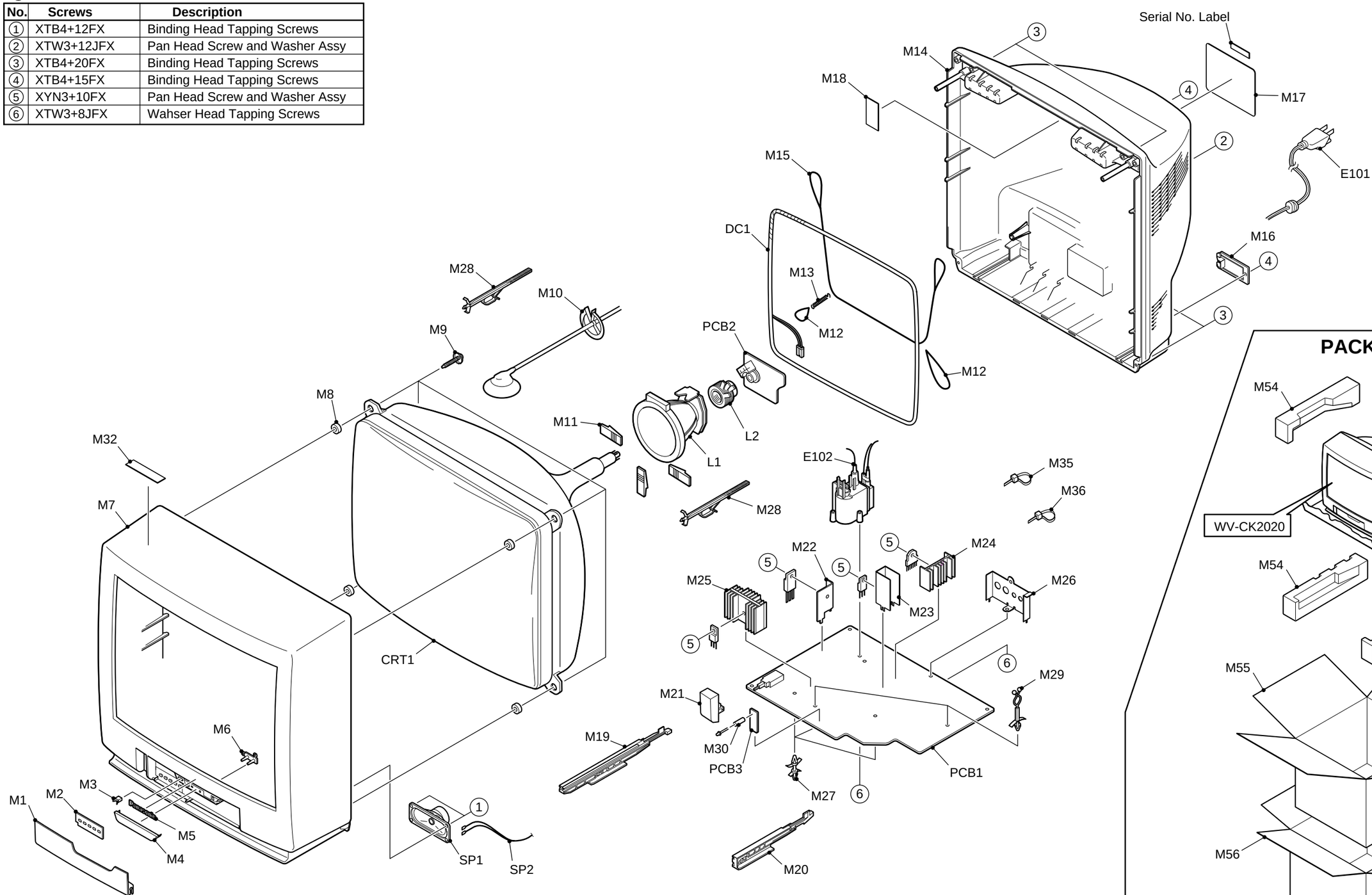




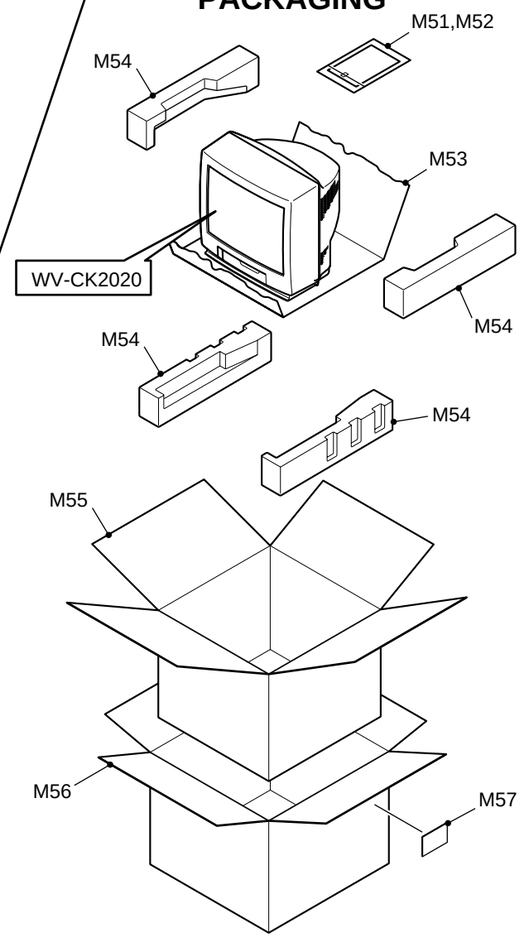
EXPLODED VIEW OF WV-CK2020

◯Numbers show screws, washers, nuts and etc.

No.	Screws	Description
①	XTB4+12FX	Binding Head Tapping Screws
②	XTW3+12JFX	Pan Head Screw and Washer Assy
③	XTB4+20FX	Binding Head Tapping Screws
④	XTB4+15FX	Binding Head Tapping Screws
⑤	XYN3+10FX	Pan Head Screw and Washer Assy
⑥	XTW3+8JFX	Wahser Head Tapping Screws



PACKAGING



REPLACEMENT PARTS LIST

Important Notice

1. Components identified by " ⚠ " mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
2. RTL : Retention Time Limited (No longer available after discontinuing product).

REF. NO.		PART NO.	DESCRIPTION
COLOUR MONITOR WV-CK1420			
MISCELLANEOUS			
CRT1	⚠	A34AGT13X31K	14" Cathode Ray Tube
DC1	⚠	TLK4C9006T	Degaussing Coil
L1		CK1420-DY	Deflection Coil
L2		CK1420-CY	Purity Magnet Assy
SP1		EAS65P309T	Speaker
SP2		CK14201AWPB	Wire Assy for Speaker
E101	⚠	TSX4C1A013B	AC Power Cord Assy for WV-CK1420/B
		TSX4C1A013G	AC Power Cord Assy for WV-CK1420/G
E102		FBTFS2831-2	Wire Assy
M1		TKK4C1A032A	Smoke Cover
M2		TBX4C1A060	Hinge Button
M3		TBX4C1A061	Power Button
M4		TBM4C1A02701	Panasonic Badge
M5	⚠	TKY4C1A002E	Front Cabinet Assy
M6		XWG5E20FCX	CRT Washer
M7		TMM4C1A007	CRT GUM
M8		THT4C1A535	Screw for CRT
M9	⚠	TMM15404-1	H.V Wire Clamper
M10		TKK4C1A037-B	LED Spacer
M11		CK142020WPA	14" C.R.T. Wire
M12		XF5B10K40171	Rope
M13		TES201	Spring
M14	⚠	TKK4C1A07101	Cord Clamp
M15	⚠	TQF4C1A06801	Main Label for WV-CK1420/B
		TQF4C1A06802	Main Label for WV-CK1420/G
M16	⚠	TKU4C1A002D	Rear Cover
M17		TMM6024-1	DY GUM
M19		THT4C1A415	Screw for Speaker
M26		TMM4C1A053	PCB Support
M29		TMM6428-1	Clamper
M32	⚠	TQF4C1A075	X-Ray Label for WV-CK1420/G
M34	⚠	TQF4C1A07401	CRT Caution Label for WV-CK1420/B
		TQF4C1A07402	CRT Caution Label for WV-CK1420/G
M35		TMM5402-1	Wire Clamper A
M36		TMM81416	Wire Clamper B

REF. NO.		PART NO.	DESCRIPTION
MAIN BOARD			
PCB1 (RTL)		CK1420/B-CMA	Printed Circuit Board Assy for WV-CK1420/B
PCB1 (RTL)		CK1420/G-CMA	Printed Circuit Board Assy for WV-CK1420/G
IC401		LA7840	IC
IC601		M52770ASP	IC
IC801		SE090NLF4	IC
IC850		AN78M05	IC
IC851		AN78M09	IC
IC852		AN78M05	IC
IC1101		MN1871681TG	IC
IC1102		S24C02ADP-P	IC
IC1103		S-80741AL-Z	IC
IC1105		BA225	IC
IC2301		YWAN5265	IC
Q160,161		2SB709A-RS	Transistor
Q390		2SA564A-R	Transistor
Q401		2SD601A-QR	Transistor
Q404		2SD601A-QR	Transistor
Q549		2SD1275A-P	Transistor
Q551		2SD2499LBMA	Transistor
Q580,581		2SB709A-RS	Transistor
Q801		2SC5241	Transistor
Q802,803		2SD789ETZ	Transistor
Q804		2SC945AQ	Transistor
Q850,851		2SC945AQ	Transistor
Q852		2SD1275A-P	Transistor
Q1145		2SD601A-QR	Transistor
Q1150		2SD601A-QR	Transistor
Q1155		2SD601A-QR	Transistor
D391-394		MA165	Diode
D401		ERA15-01V5	Diode
D402		MA4360-M	Diode
D403		MA4047-H	Diode
D404,405		MA165	Diode
D501-503		AU02V0	Diode
D504		MA4330-M	Diode
D510		AU02V0	Diode
D512		MA4056L	Diode
D517		MA4110-H	Diode
D551		ERB06-15V1	Diode
D552		TVSRU2AMV1	Diode
D580		YWD1NL20U	Diode
D581		MA4360-L	Diode
D590		MA4108J	Diode
D591		MA171	Diode
D801	⚠	DGC3R05M	Posistor

REF. NO.	PART NO.	DESCRIPTION	
D802 ⚠	D4SB80	Diode	
D803	MA4120-M	Diode	
D804	YWD1NL20U	Diode	
D805	MA4150M	Diode	
D806	MA4051-H	Diode	
D815,816	YWD1NL20U	Diode	
D817	YWS2L60	Diode	
D820	TVSSR2KSV1	Diode	
D821	0N3131R	Photocoupler	
D840 ⚠	YWPC123FY2	Photocoupler	
D850	YWD1NL20U	Diode	
D851	MA4024-H	Diode	
D852	EU02V0	Diode	
D853	MA4082M	Diode	
D854	MA27TA	Diode	
D870	YWD1NL20U	Diode	
D871	MA4056-H	Diode	
D1120	MA165	Diode	
D1145	MA165	Diode	
D1160	MA4056L	Diode	
D1170	MA4068M	Diode	
D1171	MA4068M	Diode	
D1180	MA4150M	Diode	
D1181	MA4180-M	Diode	
R160	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R161	ERJ6GEYJ334	Carbon	330K ohms 1/10W
R162	ERJ6GEYJ330	Carbon	33 ohms 1/10W
R163	ERJ6GEYJ332	Carbon	3.3K ohms 1/10W
R164	ERDS2TJ271	Carbon	270 ohms 1/4W
R166	ERDS2TJ391	Carbon	390 ohms 1/4W
R167	ERJ6GEYJ181	Carbon	180 ohms 1/10W
R168	ERJ6GEY0R00	Carbon	0 ohm 1/10W
R170	ERJ6GEYJ471	Carbon	470 ohms 1/10W
R201	ERJ6GEYJ471	Carbon	470 ohms 1/10W
R202	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R203	ERDS2TJ391	Carbon	390 ohms 1/4W
R211	ERJ6GEYJ823	Carbon	82K ohms 1/10W
R212	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R390	ERDS2TJ102	Carbon	1K ohms 1/4W
R402	ERJ6GEYJ182	Carbon	1.8K ohms 1/10W
R404	ERJ6GEYJ222	Carbon	2.2K ohms 1/10W
R405	ERJ6GEYJ621	Carbon	620 ohms 1/10W
R406	ERDS1FJ2R2	Carbon	2.2 ohms 1W
R407	ERJ6GEYJ561	Carbon	560 ohms 1/10W
R410	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R411	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R412	ERJ6GEYJ472	Carbon	4.7K ohms 1/10W
R413	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R414	ERJ6GEYJ333	Carbon	33K ohms 1/10W
R420	ERJ6GEYJ154	Carbon	150K ohms 1/10W
R421	ERJ6GEYJ271	Carbon	270 ohms 1/10W
R425	ERDS2TJ223	Carbon	22K ohms 1/4W
R451	ERDS1FJ2R2	Carbon	2.2 ohms 1W
R453	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R454	ERDS2TJ751	Carbon	3.3K ohms 1/4W

REF. NO.	PART NO.	DESCRIPTION	
R455	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R501	ERQ12HJ1R0	Fuse Resistor	1 ohm 1/12W
R502	ERQ12ZJ1R0	Fuse Resistor	1 ohm 1/12W
R503	ER025TKF1803	Metal	180K ohms 1/4W
R504	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R510	ERJ6GEYJ563	Carbon	56K ohms 1/10W
R511	ERJ6GEYJ104	Carbon	100K ohms 1/10W
R513	ERJ6GEYJ152	Carbon	1.5K ohms 1/10W
R514	ERQ2CJP2R7S	Fuse Resistor	2.7 ohms 20W
R515	ERJ6GEYJ393	Carbon	39K ohms 1/10W
R516	ERJ6GEYJ222	Carbon	2.2K ohms 1/10W
R519	ERJ6GEYJ222	Carbon	2.2K ohms 1/10W
R520	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R521	ERJ6GEYJ915V	Carbon	9.1M ohms 1/10W
R523	ERJ6GEYJ273	Carbon	27K ohms 1/10W
R524	ERJ6GEYJ684	Carbon	680K ohms 1/10W
R525	ERJ6GEYJ224	Carbon	220K ohms 1/10W
R526	ERJ6GEYJ471	Carbon	470 ohms 1/10W
R530	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R547	ERG2ANJ101	Metal	100 ohms 2W
R549	ERJ6GEYJ222	Carbon	2.2K ohms 1/10W
R548	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R550	ERG2ANJ471	Metal	470 ohms 2W
R552	ERQ1CJP102S	Fuse Resistor	1K ohms 1W
R580	ERDS2TJ823	Carbon	82K ohms 1/4W
R581	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R582	ERD2FAVJ1R5	Carbon	1.5 ohms 2W
R585	ERJ6GEYJ334	Carbon	330K ohms 1/10W
R584	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R586	ERJ6GEYJ683	Carbon	68K ohms 1/10W
R587	ERJ6GEYJ104	Carbon	100K ohms 1/10W
R588	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R589	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R590	ERJ6ENF1962V	Carbon	19.6K ohms 1/10W
R591	ERJ6ENF1472	Carbon	14.7K ohms 1/10W
R592	ERJ6GEYJ100	Carbon	10 ohms 1/10W
R605	ERD25FJ100	Carbon	10 ohms 1/4W
R606	ERD25FJ100	Carbon	10 ohms 1/4W
R620	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R621	ERDS2TJ471	Carbon	470 ohms 1/4W
R625	ERJ6GEYJ155V	Carbon	1.5M ohms 1/10W
R627	ERJ6GEYJ472	Carbon	4.7K ohms 1/10W
R628	ERJ6GEYJ915V	Carbon	9.1M ohms 1/10W
R640-642	ERJ6GEYJ821	Carbon	820 ohms 1/10W
R643-645	ERJ6GEYJ331	Carbon	330 ohms 1/10W
R650-652	ERJ6GEYJ911	Carbon	910 ohms 1/10W
R653	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R654	ERD25FJ272	Carbon	2.7K ohms 1/4W
R801	TRF7ZK2R2T-1	Cement	2.2 ohms
R802	ERG2ANJ150	Metal	15 ohms 2W
R803	ERDS1TJ154	Carbon	150K ohms 1/4W
R804	ERDS1TJ154	Carbon	150K ohms 1/4W
R805	ERDS2TJ393	Carbon	39K ohms 1/4W
R806	ERG3ANJ391	Metal	390 ohms 3W
R807 ⚠	ERC12ZGK335C	Solid	3.3M ohms 1/2W

REF. NO.	PART NO.	DESCRIPTION	
R810	ERDS2TJ123	Carbon	12K ohms 1/4W
R811	ERD50FJ182	Carbon	1.8K ohms 1/4W
R812	ERDS2TJ751	Carbon	750 ohms 1/4W
R815	ERG2ANJ470	Metal	47 ohms 2W
R816	ERG2ANJ102	Metal	1K ohms 2W
R817	ERDS1TJ222	Carbon	2.2K ohms 1W
R820	TRF7ZK272T-1	Cement	2.2 ohms
R821	ERG2ANJ153W	Metal	15K ohms 2W
R822	ERG1ANJ332	Metal	3.3K ohms 1W
R841 ⚠	ERC12ZGK825C	Solid	8.2M ohms 1/2W
R850	ERDS1TJ152	Carbon	1.5K ohms 1W
R851	ERDS2TJ241	Carbon	240 ohms 1/4W
R852	ERG2ANJ222	Metal	2.2K ohms 2W
R853	ERG2ANJ221	Metal	220 ohms 2W
R854	ERG2SJ222	Metal	2.2K ohms 2W
R855	ERDS2TJ102	Carbon	1K ohms 1/4W
R856	ERDS2TJ102	Carbon	1K ohms 1/4W
R857	ERDS2TJ202	Carbon	2K ohms 1/4W
R860	ERQ16NK1R0E	Fuse Resistor	1 ohm 1/10W
R861	ERG2ANJ3R3W	Metal	3.3 ohms 2W
R862	ERG2ANJ6R2W	Metal	6.2 ohms 2W
R863	ERG2ANJ3R3W	Metal	3.3 ohms 2W
R1053	ERJ6GEYJ681	Carbon	680 ohms 1/10W
R1101	ERJ6ENF1002V	Carbon	10K ohms 1/16W
R1109	ERD25FJ101	Carbon	100 ohms 1/4W
R1110	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R1115	ERJ6ENF1002V	Carbon	10K ohms 1/16W
R1116	ERJ6ENF2201V	Carbon	2.2 ohms 1/10W
R1117	ERJ6ENF2201V	Carbon	2.2 ohms 1/10W
R1118	ERJ6ENF3301	Carbon	3.3 ohms 1/10W
R1120	ERJ6ENF1002V	Carbon	10K ohms 1/16W
R1121	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R1122	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R1127	ERJ6GEYJ563	Carbon	56K ohms 1/10W
R1143	ERD25FJ101	Carbon	100 ohms 1/4W
R1145	ERJ6GEYJ222	Carbon	2.2K ohms 1/10W
R1146	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R1150	ERJ6GEYJ182	Carbon	1.8K ohms 1/10W
R1151-1153	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R1156	ERD25TJ102	Carbon	1K ohms 1/4W
R1157	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R1158	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R1160	ERJ6GEYJ683	Carbon	68K ohms 1/10W
R1161	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R1162	ERJ6ENF1243V	Carbon	124K ohms 1/10W
R1163	ERJ6GEYJ122	Carbon	1.2K ohms 1/10W
R1164	ERJ6GEYJ682	Carbon	6.8K ohms 1/10W
R1170,1171	ERJ6GEYJ560	Carbon	56 ohms 1/10W
R1172,1173	ERJ6GEYJ332	Carbon	3.3K ohms 1/10W
R1174	ERDS2TJ470	Carbon	47 ohms 1/4W
R1193	ERJ6GEY0R00	Carbon	0 ohm 1/10W
R1194	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R1196	ERJ6GEYJ104	Carbon	100K ohms 1/10W
R1195-1198	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R1199	ERJ6GEYJ102	Carbon	1K ohms 1/10W

REF. NO.	PART NO.	DESCRIPTION	
R2310	ERDS2TJ4R7	Carbon	4.7 ohms 1/4W
R2311	ERQ2CJP100S	Fuse Resistor	10 ohms 20W
R2312	ERDS2TJ222	Carbon	2.2K ohms 1/4W
R2313	ERDS2TJ102	Carbon	1K ohms 1/4W
R2314	ERDS2TJ562	Carbon	5.6K ohms 1/4W
R2320	ERJ6GEYJ182	Carbon	1.8K ohms 1/10W
R2321	ERJ6GEYJ823	Carbon	82K ohms 1/10W
R2322	ERJ6GEYJ183	Carbon	18K ohms 1/10W
R3007	ERJ6GEYJ750	Carbon	75 ohms 1/10W
JA6	ERJ6GEYJ0R00	Carbon	0 ohm 1/10W
JA15-17	ERJ6GEYJ0R00	Carbon	0 ohm 1/10W
JA20,21	ERJ6GEYJ0R00	Carbon	0 ohm 1/10W
JA30,31	ERJ6GEYJ0R00	Carbon	0 ohm 1/10W
JS2303	ERJ6GEYJ473	Carbon	47K ohms 1/10W
C116	ECQM1H104JV	Polyester	0.1 µF 50V
C155	ECEA1CTK470B	Electrolytic	47 µF 16V
C156	ECUV1H103ZFN	Ceramic	0.01 µF
C160	ECEA1HTK100B	Electrolytic	10 µF 50V
C161	ECQM1H104JZ	Polyester	0.1 µF 50V
C165	ECUV1H101JCN	Ceramic	100 pF
C168	ECEA1HTKR33B	Electrolytic	0.33 µF 50V
C169	ECUV1H221JCN	Ceramic	220 pF
C201	ECUV1C683KBN	Ceramic	0.068 µF
C202	ECEA1HTK3R3B	Electrolytic	3.3 µF 50V
C203	ECEA1CTK100B	Electrolytic	10 µF 16V
C204	ECUV1H222KBN	Ceramic	2200 pF
C211	ECA1HEN010	Electrolytic	1 µF 50V
C350	ECKR1H331KB	Ceramic	330 pF
C351	ECKF1H391KB	Ceramic	390 pF
C352	ECKR1H331KB	Ceramic	330 pF
C353	ECKF1H391KB	Ceramic	390 pF
C354	ECKW3D821KBP	Ceramic	820 pF
C356	ECKD2H103PE	Ceramic	0.01 µF
C390	ECEA1CTK331B	Electrolytic	330 µF 16V
C401	ECEA1VTK102E	Electrolytic	1000 µF 35V
C402	ECEA1VTK100B	Electrolytic	10 µF 35V
C403	ECEA1VTK222E	Electrolytic	2200 µF 35V
C405,406	ECUV1H102KBN	Ceramic	1000 pF
C410	ECEA1HTKR22B	Electrolytic	0.22 µF 50V
C420	ECUV1E104KBN	Ceramic	0.1 µF
C425	ECSF1EE105	Tantalum	1 µF 25V
C430	ECUV1H103KBN	Ceramic	0.01 µF
C431	ECEA1H010B	Electrolytic	1 µF 50V
C451	ECQE1224KF	Metal	0.22 µF
C452	ECA1VHG101B	Electrolytic	100 µF 35V
C453	ECQM1H333JZM	Polyester	0.033 µF 50V
C501	ECEA1HTK0R1B	Electrolytic	0.1 µF 50V
C503,504	ECKR2H471KB5	Ceramic	470 pF
C505	ECKR2H561KB	Ceramic	560 pF
C506	ECA2EHG100E	Electrolytic	10 µF 250V
C507	ECEA1ETK471E	Electrolytic	470 µF 25V
C508	ECEA1VTK332E	Electrolytic	3300 µF 35V
C510	ECEA1ATK470B	Electrolytic	47 µF 10V
C519	ECUV1H330JCN	Ceramic	33 pF
C520	ECEA1HTK010B	Electrolytic	1 µF 50V

REF. NO.	PART NO.	DESCRIPTION	
C521	ECUV1H332KBN	Ceramic	3300 pF
C522	ECQM1H822KZ	Polyester	8200 pF 50V
C525	ECEA1HTK3R3B	Electrolytic	3.3 µF 50V
C526	ECUV1H103ZFN	Ceramic	0.01 µF
C530	ECUV1H122KBN	Ceramic	1200 pF
C531	ECEA1HTK010B	Electrolytic	1 µF 50V
C540	ECUV1H561JUN	Ceramic	560 pF
C546	ECEA1HTK010B	Electrolytic	1 µF 50V
C548	ECQM1H123JZ	Polyester	0.012 µF 50V
C551	ECKW3D221KBP	Ceramic	220 pF
C552	ECWH12H123JS	Polypropylene	0.012 µF
C553	ECQM4223JZB	Polyester	0.022 µF
C555	ECQM4273JZB	Polyester	0.027 µF
C558	ECKW3D152KBP	Ceramic	1500 pF
C559	ECQF2H564JZA	Polypropylene	0.56 µF 500V
C580	ECEA1ATK330B	Electrolytic	33 µF 10V
C581	ECEA1JTK100B	Electrolytic	10 µF 63V
C582	ECEA1HTK010B	Electrolytic	1 µF 50V
C585	ECUV1H104ZFN	Ceramic	0.1 µF
C590	ECEA1VTK101B	Electrolytic	100 µF 35V
C591	ECKR2H331KB	Ceramic	330 pF
C601	ECEA1HTKR22B	Electrolytic	0.22 µF 50V
C604	ECUV1H680JCN	Ceramic	68 pF
C605	ECUV1H103ZFN	Ceramic	0.01 µF
C606	ECEA1CTK470B	Electrolytic	47 µF 16V
C610	ECA1AHG471B	Electrolytic	470 µF 10V
C611-613	ECUV1E104ZFN	Ceramic	0.1 µF
C615	ECEA0JTK101B	Electrolytic	100 µF 6.3V
C616	ECUV1H223ZFN	Ceramic	0.022 µF
C620,621	ECUV1H223KBN	Ceramic	0.022 µF
C622	ECUV1C224KBN	Ceramic	0.22 µF
C625	ECUV1H220JCN	Ceramic	22 pF
C626	ECUV1H103KBN	Ceramic	0.01 µF
C627	ECEA1HTKR47B	Electrolytic	0.47 µF 50V
C628	ECUV1H153KBN	Ceramic	0.015 µF
C630	ECUV1H151JCN	Ceramic	150 pF
C640-642	ECUV1H330JCN	Ceramic	33 pF
C633	ECEA1ATK331B	Electrolytic	330 µF 10V
C634	ECUV1H103ZFN	Ceramic	0.01 µF
C645-647	ECUV1H680JCN	Ceramic	68 pF
C801 ⚠	ECQU2A224KHB	Metal	0.22 µF 100V
C802 ⚠	ECQU2A104MNB	Metal	0.1 µF 100V
C803 ⚠	ECKCNA471MEB	Ceramic	470 pF
C805	ECKD2H103PE	Ceramic	0.01 µF
C806-809	ECKW2H472PE	Ceramic	4700 pF
C810 ⚠	EC0S2DA271CB	Electrolytic	270 µF 200V
C814	ECKW3D152KBP	Ceramic	1500 pF
C815	ECQM1H154KZ	Polyester	0.15 µF 50V
C816	ECQM1H103JZ	Polyester	0.01 µF 50V
C817	ECQM1H473JZ	Polyester	0.047 µF 50V
C818	ECA1AHG101B	Electrolytic	100 µF 10V
C820,821	ECQM1H223JZ	Polyester	0.022 µF 50V
C822	ECKW3D222KBP	Ceramic	2200 pF
C823	EC0S2CA681CB	Electrolytic	680 µF 160V
C824	ECKW3D821KBP	Ceramic	820 pF

REF. NO.	PART NO.	DESCRIPTION	
C825	ECKW3D102KB	Ceramic	1000 pF
C828	ECA1EHG331B	Electrolytic	330 µF 25V
C830	ECEA0JTK101B	Electrolytic	100 µF 6.3V
C831	ECA160V33UE	Electrolytic	33 µF 160V
C833	ECA1CHG101	Electrolytic	100 µF 16V
C840	ECKCNA222MEB	Ceramic	2200 pF
C850	ECA1EHG102E	Electrolytic	1000 µF 25V
C851	ECKR2H471KB5	Ceramic	470 pF
C852	ECKR2H222KB5	Ceramic	2200 pF
C853	ECA1HHG221	Electrolytic	220 µF 50V
C854	ECA1CHG100B	Electrolytic	10 µF 16V
C858	ECQM1H473JZ	Polyester	0.047 µF 50V
C870	ECEA1VTK101B	Electrolytic	100 µF 35V
C871	ECEA0JTK101B	Electrolytic	100 µF 6.3V
C1101	ECUV1H471JCN	Ceramic	470 pF
C1102	ECUV1H103ZFN	Ceramic	0.01 µF
C1120	ECEA1HTK010B	Electrolytic	1 µF 50V
C1135	ECUV1H103ZFN	Ceramic	0.01 µF
C1137	ECEA1CTK220B	Electrolytic	22 µF 16V
C1138	ECUV1H103ZFN	Ceramic	0.01 µF
C1145	ECUV1H681JCN	Ceramic	680 pF
C1146	ECUV1H101JCN	Ceramic	100 pF
C1149	ECUV1H560JCN	Ceramic	56 pF
C1151-1153	ECUV1H820JCN	Ceramic	82 pF
C1156	ECUV1H102JCN	Ceramic	1000 pF
C1157	ECUV1H103ZFN	Ceramic	0.01 µF
C1160	ECEA1CTK471B	Electrolytic	470 µF 16V
C1161	ECUV1H103ZFN	Ceramic	0.01 µF
C1170,1171	ECUV1H101JCN	Ceramic	100 pF
C1172	ECUV1H103ZFN	Ceramic	0.01 µF
C1173	ECEA1CTK100B	Electrolytic	10 µF 16V
C1174	ECUV1H103ZFN	Ceramic	0.01 µF
C1199	ECEA0JTK220B	Electrolytic	22 µF 6.3V
C2302	ECEA1CTK100B	Electrolytic	10 µF 16V
C2305	ECEA1CTK100B	Electrolytic	10 µF 16V
C2306	ECEA1ETK220B	Electrolytic	22 µF 25V
C2307	ECEA1ETK102E	Electrolytic	1000 µF 25V
C2309	ECEA1ETK102E	Electrolytic	1000 µF 25V
C2310	ECQM1H683JZ	Polyester	0.068 µF 50V
C2311	ECQM1H683JV3	Polyester	0.068 µF 50V
C2313	ECUV1H332JCN	Polyester	3300 pF 50V
C2314	ECEA1HTK2R2B	Electrolytic	2.2 µF 50V
C3209 (R3209)	ERJ6GEY0R00	Carbon	0 ohm 1/10W
L150	ELEP4CJ101KA	Peaking Coil	
L402	TSKA075	Coil	
L501	TSKA075	Coil	
L551,552	TSKA075	Coil	
L553	TLH4C6623P-1	Linearity Coil	
L555	TSKA077	Coil	
L557	TSKA077	Coil	
L558	TSKA075	Coil	
L580	TSKA077	Coil	
L620	TSKA077	Coil	
L611	TSKA075	Coil	
L612	ELEP4CJR47KA	Peaking Coil	

REF. NO.	PART NO.	DESCRIPTION
L640-642	TL0ABTA100K	Peaking Coil
L801 ⚠	ELF18D666D	Line Filter
L810,850	TSKA075	Coil
L870	TSKA075	Coil
L1104	TL0ABTA100K	Peaking Coil
L1135	TL0ABTA100K	Peaking Coil
L1140	TL0ABTA100K	Peaking Coil
L1151	TL0ABTA100K	Peaking Coil
L1152	TSKA069	Coil
J26	XEA6150	Jumper
J212	TSKA075	Coil
J248	XEA6160	Jumper
J307	TSKA077	Coil
J400,401	XEA6160	Jumper
JS502	TSKA075	Coil
S1101	EVQ4CTSVR-2T	TACT Switch
S1103-1106	EVQ4CTSVR-2T	TACT Switch
S801 ⚠	ESB92DA1B	Power Switch
T501 ⚠	ETF-39L51AYT	Flyback Transformer
T550 ⚠	TLH15462M	Transformer
T801 ⚠	ETS29AK286NC	Transformer
X520	TAFCSB500F48	Crystal Oscillator
X625	TSS4C816M32T	Crystal Oscillator
X626	TSS44A002T	Crystal Oscillator
X1160	EF0EC1205B4	Crystal Oscillator
F1-4 ⚠	TP00351-51	Fuse Holder
F801,802 ⚠	XBA2C31TR0	Fuse 3.15A 250V
TP	TJS4CP05-L	5-pin Connector
CN11 (A11)	TJS4C63574TA	5-pin Connector
CN12 (A12)	TJS4C63573TA	4-pin Connector
CN14 (A21)	TJS5A8730	3-pin Connector
M21	TUC4C1A066	Heat Sink for Q801
M22	TUC4C1A068	Heat Sink for Q551
M23	TUC4C1A069	Heat Sink for IC851
M24	TUC4C1A054A	Heat Sink for IC401
M25 (EM3100)	TJB4C1A030	AV Connector Assy

REF. NO.	PART NO.	DESCRIPTION
CRT SOCKET BOARD		
PCB2 (RTL)	CK1420/G-CMC	Printed Circuit Board Assy
Q351-353	2SC2258	Transistor
R351-353	ERG2ANJ123	Metal 12K ohms 2W
R354-356	ERDS1TJ272	Carbon 2.7K ohms 1W
R366-368	ERDS2TJ391	Carbon 390 ohms 2W
R369-371	ERDS2TJ562	Carbon 5.6K ohms 2W
R372-374	ERDS2TJ101	Carbon 100 ohms 2W
C350	ECKF1H331KB	Ceramic 330 pF
C351	ECKF1H391KB	Ceramic 390 pF
C352	ECKF1H331KB	Ceramic 330 pF
C353	ECKF1H391KB	Ceramic 390 pF
C354	ECKW3D821KBN	Ceramic 820 pF
C356	ECKD2H103PE	Ceramic 0.01 µF
CN1 (JK14)⚠	TJS1A5081	CRT Socket
CN11	CK1420A11S5	Wire Assy for Main Board CN11
CN12	CK1420A12S4	Wire Assy for Main Board CN12
LED BOARD		
PCB3 (RTL)	CK1420/G-CML	Printed Circuit Board Assy
D1051	SLR-56VC3F	LED (Red)
CN1 (L1)	TJS5A8750	3-pin Connector
M28	TMM4C1A044	LED Holder
ACCESSORY PARTS / PACKAGING PARTS		
M51 ⚠	TQB4C1A188	Operating Instructions
M52	TPE4C1A00201	Polyethylene Bag
M53	TPE4C1A012	Polyethylene Sheet
M54	TPD4C1A002B	Pad Complete
M55	TPC4C1A23301	Packing Case (IN) for WV-CK1420/B
	TPC4C1A23302	Packing Case (IN) for WV-CK1420/G
M56	TPC4C1A23801	Packing Case (OUT) for WV-CK1420/B
	TPC4C1A23802	Packing Case (OUT) for WV-CK1420/G
M57	TQF4C1A061	Bar Code Label

REF. NO.	PART NO.	DESCRIPTION
COLOUR MONITOR WV-CK2020		
MISCELLANEOUS		
CRT1 ⚠	A51AEZ90X15K	21" Cathode Ray Tube
DC1 ⚠	TLK4C9012A	Degaussing Coil
L1	CK2020-DY	Deflection Coil
L2	CK2020-CY	Purity Magnet Assy
SP1	EAS12D310A6	Speaker
SP2	CK20201AWPB	SP Wire Assy
E101 ⚠	TSX4C1A013B	AC Power Cord Assy for WV-CK2020/B
	TSX4C1A013G	AC Power Cord Assy for WV-CK2020/G
E102	FBTFS3740-2	Wire Assy
M1	TKP4C1A111	Door Cover
M2	TKP4C1A112	Index Plate
M3	TEK4C1A004	Door Catcher
M4	TKK4C1A033A	Smoke Cover
M5	TBM4C1A02801	Panaosnic Badge
M6	TKK4C1A037-B	LED Spacer
M7	TKY4C1A015D1	Cabinet Assy
M8	TMM4C1A052	CRT Spacer
M9	THT4C1A535	Mount screw for CRT
M10 ⚠	TMM15404-1	H.V Wire Clamper
M11	TMM6024-1	DY GUM
M12	XF5B10K40171	Rope for CRT
M13	TES201	Spring
M14 ⚠	TKU4C1A017A	Rear Cover
M15	CK202020WPA	21" CRT Wire
M16	TKK4C1A07101	Cord Clamp
M17 ⚠	TQF4C1A06804	Main Label for WV-CK2020/B
	TQF4C1A06805	Main Label for WV-CK2020/G
M18 ⚠	TQF4C1A07404	CRT Caution Label for WV-CK2020/B
	TQF4C1A07405	CRT Caution Label for WV-CK2020/G
M19 ⚠	TMZ4C1A01101	CH Rail (L)
M20 ⚠	TMZ4C1A01001	CH Rail (R)
M21	TBX4C1A062	Power Button
M27	TMX4C1A009	PCB Support
M28	TMM4C1A042	DY Clamper
M29	TMM6428-1	Cable Clamper
M32 ⚠	TQF4C1A075	X-Ray Label for WV-CK2020/G
M35	TMM5402-1	Wire Clamper A
M36	TMM81416	Wire Clamper B

REF. NO.	PART NO.	DESCRIPTION
MAIN BOARD		
PCB1(RTL)	CK2020-B-CMA	Printed Circuit Board Assy for WV-CK2020/B
	CK2020-G-CMA	Printed Circuit Board Assy for WV-CK2020/G
IC401	LA7840	IC
IC601	M52770ASp	IC
IC801	SE090NLF4	IC
IC850	AN78M05	IC
IC851	AN78M09	IC
IC852	AN78M05	IC
IC1101	MN1871681TG	IC
IC1102	S24C02ADP	IC
IC1103	S-80741AL-Z	IC
IC1105	BA225	IC
IC2301	YWAN5265	IC
Q160,161	2SB709A-R	Transistor
Q390	2SA564A-R	Transistor
Q401	2SD601A-QR	Transistor
Q404	2SD601A-QR	Transistor
Q549	2SD1275A-P	Transistor
Q551	2SD2499LBMA	Transistor
Q580,581	2SB709A-RS	Transistor
Q801	2SC5241	Transistor
Q802,803	2SD789ETZ	Transistor
Q804	2SC945AQ	Transistor
Q850,851	2SC945AQ	Transistor
Q852	2SD1275A-P	Transistor
Q1145	2SD601A-QR	Transistor
Q1150	2SD601A-QR	Transistor
Q1155	2SD601A-QR	Transistor
D391-394	MA165	Diode
D401	ERA15-01V5	Diode
D402	MA4360-M	Diode
D403	MA4047-H	Diode
D404,405	MA165	Diode
D501-503	AU02V0	Diode
D504	MA4330-M	Diode
D510	AU02V0	Diode
D512	MA4056-L	Diode
D517	MA4110-H	Diode
D551	ERB06-15V1	Diode
D552	TVSRU2AMV1	Diode
D580	YWD1NL20U	Diode
D581	MA4360-L	Diode
D590	MA4108J	Diode
D591	MA171	Diode
D801 ⚠	DGC3R05M	Posistor
D802 ⚠	D4SB80	Diode
D803	MA4120-M	Diode
D804	YWD1NL20U	Diode

REF. NO.	PART NO.	DESCRIPTION	
D805	MA4150M	Diode	
D806	MA4051-H	Diode	
D815,816	YWD1NL20U	Diode	
D817	YWS2L60V61	Diode	
D820	TVSSR2KSV1	Diode	
D821	0N3131	Photocoupler	
D840 ⚠	YWPC123FY2	Photocoupler	
D850	YWD1NL20U	Diode	
D851	MA4024-H	Diode	
D852	EU02V0	Diode	
D853	MA4082M	Diode	
D854	MA27T-A	Diode	
D870	YWD1NL20U	Diode	
D871	MA4056-H	Diode	
D1120	MA165	Diode	
D1145	MA165)	Diode	
D1160	MA4056-L	Diode	
D1170,1171	MA4068M	Diode	
D1180	MA4150M	Diode	
D1181	MA4180-M	Diode	
R160	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R161	ERJ6GEYJ334	Carbon	330K ohms 1/10W
R162	ERJ6GEYJ330	Carbon	33 ohms 1/10W
R163	ERJ6GEYJ332	Carbon	3.3K ohms 1/10W
R164	ERDS2TJ271T	Carbon	270 ohms 1/10W
R166	ERJ6GEYJ391	Carbon	390 ohms 1/10W
R167	ERJ6GEYJ181	Carbon	180 ohms 1/10W
R168	ERJ6GEYJR00	Carbon	0 ohm 1/10W
R170	ERJ6GEYJ471	Carbon	470 ohms 1/10W
R201	ERJ6GEYJ471	Carbon	470 ohms 1/10W
R202	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R203	ERJ6GEYJ391	Carbon	390 ohms 1/10W
R211	ERJ6GEYJ823	Carbon	82K ohms 1/10W
R212	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R390	ERDS2TJ102T	Carbon	1K ohms 1/10W
R402	ERJ6GEYJ182	Carbon	1.8K ohms 1/10W
R404	ERJ6GEYJ242	Carbon	2.4K ohms 1/10W
R405	ERJ6GEYJ331	Carbon	330 ohms 1/10W
R406	ERDS1TJ1R5	Carbon	1.5 ohms 1W
R407	ERJ6GEYJ121V	Carbon	120 ohms 1/10W
R410	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R411	ERJ6GEYJ562	Carbon	56K ohms 1/10W
R412	ERJ6GEYJ472	Carbon	4.7K ohms 1/10W
R413	ERDS2TJ222T	Carbon	2.2K ohms 1/4W
R414	ERJ6GEYJ333	Carbon	33K ohms 1/10W
R420	ERJ6GEYJ154	Carbon	150K ohms 1/10W
R421	ERJ6GEYJ271	Carbon	270 ohms 1/10W
R425	ERDS2TJ223T	Carbon	22K ohms 1/4W
R430	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R431	ERJ6GEYJ274	Carbon	270K ohms 1/10W
R451	ERDS1FJ4R7	Carbon	4.7 ohms 1W
R453	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R454	ERDS2TJ102T	Carbon	1K ohms 1/4W
R455	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R501	ERQ12HJ1R0	Fuse Resistor	1 ohm 1/2W

REF. NO.	PART NO.	DESCRIPTION	
R502	ERQ12ZJ1R0	Fuse Resistor	1 ohm 1/2W
R503	ERO25TKF1783	Metal	178K ohms 1/4W
R504	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R510	ERJ6GEYJ563	Carbon	56K ohms 1/10W
R511	ERJ6GEYJ104	Carbon	100K ohms 1/10W
R513	ERJ6GEYJ152	Carbon	15K ohms 1/10W
R514	ERQ2CJP1R2S	Fuse Resistor	1.2 ohms 2W
R515	ERJ6GEYJ393	Carbon	39K ohms 1/10W
R516	ERJ6GEYJ222	Carbon	2.2K ohms 1/10W
R520	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R521	ERJ6GEYJ915V	Carbon	9.1M ohms 1/10W
R523	ERJ6GEYJ273	Carbon	27K ohms 1/10W
R524	ERJ6GEYJ684	Carbon	680K ohms 1/10W
R525	ERJ6GEYJ224	Carbon	220K ohms 1/10W
R526	ERJ6GEYJ471	Carbon	470 ohms 1/10W
R530	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R547	ERG2ANJ360	Metal	36 ohms 2W
R548	ERJ6GEYJ821	Carbon	820 ohms 1/10W
R549	ERJ6GEYJ122	Carbon	1.2K ohms 1/10W
R550	ERG2ANJ331	Metal	330 ohms 2W
R551	ERQ12AJ101P	Fuse Resistor	100 ohms 1/2W
R552	ERQ1CJP102S	Fuse Resistor	1K ohms 1W
R580	ERD25TJ823	Carbon	82K ohms 1/4W
R581	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R582	ERD2FAVJ1R5	Carbon	1.5 ohms 2W
R584	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R585	ERJ6GEYJ334	Carbon	330K ohms 1/10W
R586	ERJ6GEYJ683	Carbon	68K ohms 1/10W
R587	ERJ6GEYJ104	Carbon	100K ohms 1/10W
R588	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R589	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R590	ERJ6ENF1962V	Carbon	19.6K ohms 1/10W
R591	ERJ6ENF1472	Carbon	14.7K ohms 1/10W
R592	ERJ6GEYJ100	Carbon	10 ohms 1/10W
R605,606	ERD25TJ100	Carbon	10 ohms 1/4W
R620	ERJ6GEYJ221	Carbon	220 ohms 1/10W
R621	ERDS2TJ471T	Carbon	470 ohms 1/4W
R623	ERJ6GEYJ471	Carbon	470 ohms 1/10W
R625	ERJ6GEYJ155V	Carbon	1.5M ohms 1/10W
R627	ERJ6GEYJ472	Carbon	4.7K ohms 1/10W
R628	ERJ6GEYJ915V	Carbon	9.1M ohms 1/10W
R640-642	ERJ6GEYJ152	Carbon	1.5K ohms 1/10W
R643-645	ERJ6GEYJ331	Carbon	330 ohms 1/10W
R650-652	ERJ6GEYJ911	Carbon	910 ohms 1/10W
R653	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R654	ERD25TJ272	Carbon	2.7K ohms 1/4W
R801	TRF7ZK2R2T-1	Cement	2.2 ohms
R802	ERG2ANJ150	Metal	15 ohms 2W
R803,804	ERDS1TJ154	Carbon	150K ohms 1/2W
R805	ERDS2TJ393	Carbon	39K ohms 1/4W
R806	ERG3ANJ391	Metal	390 ohms 3W
R807 ⚠	ERC12ZGK335C	Solid	3.3M ohms 1/2W
R810	ERDS2TJ103	Carbon	10K ohms 1/4W
R811	ERDS1TJ202	Carbon	2K ohms 1/2W
R812	ERDS2TJ751	Carbon	750 ohms 1/4W

REF. NO.	PART NO.	DESCRIPTION	
R815	ERG2ANJ470	Metal	47 ohms 2W
R816	ERG2ANJ102	Metal	1K ohms 2W
R817	ERDS1TJ222	Carbon	2.2K ohms 1/2W
R820	TRF7ZK272T-1	Cement	2.7K ohms
R821	ERG3SJ822P	Metal	8.2K ohms 3W
R822	ERG1ANJ332	Metal	3.3K ohms 1W
R841 ⚠	ERC12ZGK825C	Solid	8.2M ohms 1/2W
R850	ERDS1TJ152	Carbon	1.5K ohms 1/2W
R851	ERDS2TJ241	Carbon	240 ohms 1/4W
R852	ERG2ANJ222	Metal	2.2K ohms 2W
R853	ERG2ANJ221	Metal	220 ohms 2W
R854	ERG2SJ222	Metal	2.2K ohms 2W
R855,856	ERDS2TJ102	Carbon	1K ohms 1/4W
R857	ERDS2TJ202	Carbon	2K ohms 1/4W
R860	ERQ16NK1R0E	Fuse Resistor	1 ohm 1/16W
R861	ERG2ANJ3R3W	Metal	3.3 ohms 2W
R862	ERG2ANJ6R2W	Metal	6.2 ohms 2W
R863	ERG2ANJ3R3W	Metal	3.3 ohms 2W
R1053	ERJ6GEYJ681	Carbon	680 ohms 1/10W
R1101	ERJ6ENF1002V	Carbon	10K ohms 1/10W
R1109	ERD25TJ101	Carbon	100 ohms 1/4W
R1110	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R1115	ERJ6ENF1002V	Carbon	10K ohms 1/10W
R1116,1117	ERJ6ENF2201V	Carbon	2.2K ohms 1/10W
R1118	ERJ6ENF3301	Carbon	3.3K ohms 1/10W
R1120	ERJ6ENF1002V	Carbon	10K ohms 1/10W
R1121,1122	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R1127	ERJ6GEYJ563	Carbon	56K ohms 1/10W
R1143	ERD25TJ101	Carbon	100 ohms 1/4W
R1145	ERJ6GEYJ222	Carbon	2.2K ohms 1/10W
R1146	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R1150	ERJ6GEYJ182	Carbon	1.8K ohms 1/10W
R1151-1153	ERJ6GEYJ562	Carbon	5.6K ohms 1/10W
R1156	ERD25TJ102	Carbon	1K ohms 1/4W
R1157,1158	ERJ6GEYJ101	Carbon	100 ohms 1/10W
R1160	ERJ6GEYJ683	Carbon	68K ohms 1/10W
R1161	ERJ6GEYJ223	Carbon	22K ohms 1/10W
R1162	ERJ6ENF1243V	Carbon	124K ohms 1/10W
R1163	ERJ6GEYJ122	Carbon	1.2K ohms 1/10W
R1164	ERJ6GEYJ682	Carbon	6.8K ohms 1/10W
R1170,1171	ERJ6GEYJ560	Carbon	56 ohms 1/10W
R1172	ERJ6GEYJ332	Carbon	3.3K ohms 1/10W
R1173	ERJ6GEYJ332	Carbon	3.3K ohms 1/10W
R1174	ERDS2TJ470T	Carbon	47 ohms 1/4W
R1193	ERJ6GEYJR00V	Carbon	0 ohm 1/10W
R1194	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R1195	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R1196	ERJ6GEYJ104	Carbon	100K ohms 1/10W
R1197,1198	ERJ6GEYJ103	Carbon	10K ohms 1/10W
R1199	ERJ6GEYJ102V	Carbon	1K ohms 1/10W
R2310	ERDS2TJ4R7T	Carbon	4.7 ohms 1/4W
R2311	ERQ2CJP100S	Fuse Resistor	10 ohms
R2312	ERDS2TJ222T	Carbon	2.2K ohms 1/4W
R2313	ERDS2TJ102T	Carbon	1K ohms 1/4W
R2314	ERDS2TJ562T	Carbon	5.6K ohms 1/4W

REF. NO.	PART NO.	DESCRIPTION	
R2320	ERJ6GEYJ102	Carbon	1K ohms 1/10W
R2321	ERJ6GEYJ823	Carbon	82K ohms 1/10W
R2322	ERJ6GEYJ183	Carbon	18K ohms 1/10W
R3007	ERJ6GEYJ750	Carbon	75 ohms 1/10W
R3211	ERJ6GEYJ561	Carbon	560 ohms 1/10W
JS2303	ERJ6GEYJ473	Carbon	47K ohms 1/10W
JA6	ERJ6GEYJR00V	Carbon	0 ohm 1/10W
JA15-17	ERJ6GEYJR00V	Carbon	0 ohm 1/10W
JA20,21	ERJ6GEYJR00V	Carbon	0 ohm 1/10W
JA30,31	ERJ6GEYJR00V	Carbon	0 ohm 1/10W
C155	ECEA1CTK470B	Electrolytic	4.7 µF 16V
C156	ECUV1H103ZFN	Ceramic	0.01 µF
C160	ECEA1HTK100B	Electrolytic	10 µF 50V
C161	ECQV1H104JZ3	Plastic	0.1 µF
C165	ECUV1H101JCN	Ceramic	100 pF
C168	ECEA1HTKR33B	Electrolytic	0.33 µF 50V
C169	ECUV1H221JCN	Ceramic	220 pF
C201	ECUV1C683KBN	Ceramic	0.068 µF
C202	ECEA1HTK3R3B	Electrolytic	3.3 µF 50V
C203	ECEA1CTK100B	Electrolytic	10 µF 16V
C204	ECUV1H222KBN	Ceramic	2200 pF
C211	ECA1HEN010	Electrolytic	1 µF 50V
C357	ECQE2223JZA1	Plastic	0.022 µF
C390	ECEA1CTK331B	Electrolytic	330 µF 16V
C401	ECEA1VTK102E	Electrolytic	1000 µF 35V
C402	ECEA1VTK330B	Electrolytic	33 µF 35V
C403	ECEA1VTK222E	Electrolytic	2200 µF 35V
C405,406	ECUV1H102KBN	Ceramic	1000 pF
C410	ECEA1HTKR22B	Electrolytic	0.22 µF 50V
C420	ECUV1E104KBN	Ceramic	0.1 µF
C425	ECSF1EE105VB	Tantalum	10 µF 25V
C430	ECUV1H103KBN	Ceramic	0.01 µF
C431	ECEA1HTK010B	Electrolytic	1µF 50V
C451	ECQE1224KF3	Plastic	0.22 µF
C452	ECA1VHG101B	Electrolytic	100 µF 35V
C453	ECQB1682KF3	Plastic	6800 pF
C501	ECEA1HTK0R1B	Electrolytic	0.1 µF 50V
C503,504	ECKR2H471KB5	Ceramic	470 pF
C505	ECKR2H561KB5	Ceramic	560 pF
C506	ECA2EHG220E	Electrolytic	22 µF 250V
C507	ECEA1ETK471E	Electrolytic	470 µF 25V
C508	ECEA1VTK332E	Electrolytic	3300 µF 35V
C510	ECEA1ATK470B	Electrolytic	47 µF 10V
C519	ECUV1H330JCN	Ceramic	33 pF
C520	ECEA1HTK010B	Electrolytic	1µF 50V
C521	ECUV1H332KBN	Ceramic	3300 pF
C522	ECQM1H822JV3	Plastic	8200 pF
C525	ECEA1HTK3R3B	Electrolytic	3.3 µF 50V
C526	ECUV1H103ZFN	Ceramic	0.01 µF
C530	ECUV1H122KBN	Ceramic	1200 pF
C531	ECEA1HTK010B	Electrolytic	1µF 50V
C540	ECUV1H561JUN	Ceramic	560 pF
C546	ECEA1HTK010B	Electrolytic	11 µF 50V
C548	ECQM1H473JV3	Plastic	0.047 µF 50V
C551	ECKW3D471KBP	Ceramic	470 pF

REF. NO.	PART NO.	DESCRIPTION	
C552	ECWH12H153JS	Polypropylene	0.015 µF
C553	ECQM4223JZB	Plastic	0.022 µF
C555	ECQM4273JZB	Plastic	0.027 µF
C559	ECQF2H824JZA	Plastic	0.82 µF 500V
C560	ECQF2H474JZA	Metal	0.47 µF
C558	ECWH12H472JS	Polypropylene	4700 pF
C580	ECEA1ATK330B	Electrolytic	33 µF 10V
C581	ECEA1JTK100B	Electrolytic	10 µF 63V
C582	ECEA1HTK010B	Electrolytic	11 µF 50V
C585	ECUV1H104ZFN	Ceramic	0.01 µF
C590	ECEA1VTK101B	Electrolytic	100 µF 35V
C591	ECKR2H331KB5	Ceramic	330 pF
C601	ECEA1HTKR22B	Electrolytic	0.22 µF 50V
C604	ECUV1H680JCN	Ceramic	68 pF
C605	ECUV1H103ZFN	Ceramic	0.01 µF
C606	ECEA1CTK470B	Electrolytic	4.7 µF 16V
C610	EEUFA1A102E	Electrolytic	1000 µF 10V
C611-613	ECUV1E104KBN	Ceramic	0.1 µF
C615	ECEA0JTK101B	Electrolytic	100 µF 6.3V
C616	ECUV1H223ZFN	Ceramic	0.022 µF
C620,621	ECUV1H223KBN	Ceramic	0.022 µF
C622	ECUV1C224KBN	Ceramic	0.22 µF
C626	ECUV1H103KBN	Ceramic	0.01 µF
C627	ECEA1HTKR47B	Electrolytic	0.47 µF 50V
C628	ECUV1H153KBN	Ceramic	0.015 µF
C630	ECUV1H151JCN	Ceramic	150 pF
C633	ECEA1ATK331B	Electrolytic	330 µF 10V
C634	ECUV1H103ZFN	Ceramic	0.01 µF
C640-642	ECUV1H330JCN	Ceramic	33 pF
C645-647	ECUV1H820JCN	Ceramic	82 pF
C801 ⚠	ECQU2A224KHB	Metal	0.22 µF
C802 ⚠	ECQU2A104MNB	Plastic	0.1 µF
C803 ⚠	ECKCNA221MBB	Ceramic	220 pF
C805	ECKW2H103PE8	Ceramic	0.01 µF
C806-809	ECKW2H472PE8	Ceramic	4700 pF
C810 ⚠	ECOS2DA331CB	Electrolytic	330 µF
C814	ECKW3D102KBP	Ceramic	1000 pF
C815	ECQV1H224JZ3	Metal	0.22 µF
C816	ECQM1H333JV3	Plastic	0.033 µF
C817	ECQM1H473JV3	Plastic	0.047 µF
C818	ECA1AHG101B	Electrolytic	100 µF 10V
C820	ECQM1H223JV3	Plastic	0.022 µF
C821	ECQM1H273JV3	Plastic	0.027 µF
C822	ECKW3D821KBP	Ceramic	820 pF
C823	ECOS2CA102CB	Ceramic	1000 pF
C824	ECKW3D821KBP	Ceramic	820 pF
C825	ECKW3D102KBP	Ceramic	1000 pF
C828	ECA1EHG331B	Electrolytic	330 µF 25V
C829	ECA1CHG101B	Electrolytic	100 µF 16V
C830	ECEA0JTK101B	Electrolytic	100 µF 6.3V
C831	ECA160V33UE	Electrolytic	33 µF 160V
C840 ⚠	ECKCNA222MEB	Ceramic	2200 pF
C850	ECA1EHG102E	Electrolytic	1000 µF 25V
C851	ECKR2H471KB5	Ceramic	470 pF
C852	ECKW3D471KBP	Ceramic	470 pF

REF. NO.	PART NO.	DESCRIPTION	
C853	ECA1HHG471E	Electrolytic	470 µF 50V
C854	ECA1CHG100B	Electrolytic	10 µF 16V
C858	ECQM1H473JV3	Plastic	0.047 µF
C870	ECEA1VTK101B	Electrolytic	100 µF 35V
C871	ECEA0JTK101B	Electrolytic	100 µF 6.3V
C830	ECEA0JTK101B	Electrolytic	100 µF 6.3V
C1101	ECUV1H471JCN	Ceramic	470 pF
C1102	ECUV1H103ZFN	Ceramic	0.01 µF
C1120	ECEA1HTK010B	Electrolytic	11 µF 50V
C1135	ECUV1H103ZFN	Ceramic	0.01 µF
C1137	ECEA1CTK220B	Electrolytic	22 µF 16V
C1138	ECUV1H103ZFN	Ceramic	0.01 µF
C1145	ECUV1H680JCN	Ceramic	68 pF
C1146	ECUV1H101JCN	Ceramic	100 pF
C1149	ECUV1H560JCN	Ceramic	56 pF
C1151-1153	ECUV1H820JCN	Ceramic	82 pF
C1156	ECUV1H102JCN	Ceramic	1000 pF
C1157	ECUV1H103ZFN	Ceramic	0.01 µF
C1160	ECEA1CTK471B	Electrolytic	47 µF 16V
C1161	ECUV1H103ZFN	Ceramic	0.01 µF
C1170,1171	ECUV1H101JCN	Ceramic	100 pF
C1172	ECUV1H103ZFN	Ceramic	0.01 µF
C1173	ECEA1CTK100B	Electrolytic	10 µF 16V
C1174	ECUV1H103ZFN	Ceramic	0.01 µF
C1199	ECEA0JTK220B	Electrolytic	22 µF 6.3V
C2302	ECEA1CTK100B	Electrolytic	10 µF 16V
C2305	ECEA1CTK100B	Electrolytic	10 µF 16V
C2306	ECEA1ETK220B	Electrolytic	22 µF 25V
C2307	ECEA1ETK102E	Electrolytic	1000 µF 25V
C2309	ECEA1ETK102E	Electrolytic	1000 µF 25V
C2311	ECQM1H683JV3	Plastic	0.068 µF 50V
C2313	ECQM1H332JV3	Plastic	3300 pF 50V
C2314	ECEA1HTK2R2B	Electrolytic	2.2 µF 50V
C3209 (R3209)	ERJ6GEY0R00	Carbon	0 ohm 1/10W
X520	TAFCSB500F48	Crystal Oscillator	
X626	TSS4GA002T	Crystal Oscillator	
X1160	EFOEC1205B4	Crystal Oscillator	
J26	XEA6150	Jumper	
J212	TSKA075	Coil	
J248	XEA6160	Jumper	
J264	TSKA075	Coil	
J307	TSKA077	Coil	
J400,401	XEA6160	Jumper	
JS502	TSKA075	Coil	
L150	ELEP4CJ101KA	Coil	100 µH
L402	TSKA075	Coil	
L501	TSKA075	Coil	
L551	TSKA075	Coil	
L552	TSKA075	Coil	
L553	TLH6667P-1	Linearity Coil	
L554	LHL08TB682J	Coil	6800 µH
L555	TSKA077	Coil	
L557	TSKA077	Coil	
L558	TSKA075	Coil	
L580	TSKA077	Coil	

REF. NO.	PART NO.	DESCRIPTION	
L611	TSKA075	Coil	
L612	ELEP4CJR47KA	Coil	0.47 µH
L620	TSKA077	Coil	
L640-642	TL0ABTA100K	Peaking Coil	
L801 ⚠	ELF18D666P	Line Filter	
L810	TSKA075	Coil	
L850	TSKA075	Coil	
L870	TSKA075	Coil	
L1104	TL0ABTA100K	Peaking Coil	10 µH
L1135	TL0ABTA100K	Peaking Coil	10 µH
L1140	TL0ABTA100K	Peaking Coil	10 µH
L1151	TL0ABTA100K	Peaking Coil	10 µH
L1152	TSKA069	Coil	
T501 ⚠	ETF-46L333AY	Flyback Transformer	
T550 ⚠	TLH15462M	Transformer	
T801 ⚠	ETS29AK286NC	Transformer	
F801,802 ⚠	XBA2C31TR0	Fuse	3.15A 250V
F1-4 ⚠	TP00351-51	Fuse Holder	
S801 ⚠	ESB92DA1B	Power Switch	
S1101	EVQ4CTSVR-2T	TACT Switch	
S1103	EVQ4CTSVR-2T	TACT Switch	
S1104-1106	EVQ4CTSVR-2T	TACT Switch	
TP	TJS4CP05-L	5P Connector Socket	
CN11 (A11)	TJS4C63574TA	5P Connector Socket	
CN12 (A12)	TJS4C63573TA	4P Connector Socket	
CN14 (A21)	TJS5A8730	3P Board Connector	
M22	TUC4C1A068	Heat Sink for Q551	
M23	TUC4C1A069	Heat Sink for IC851	
M24	TUC4C1A054A	Heat Sink for IC401	
M25	TUC4C1A066	Heat Sink for Q801	
M26 (EM3100)	TJB4C1A030	AV Connector Assy	

REF. NO.	PART NO.	DESCRIPTION	
CRT SOCKET BOARD			
PCB2 (RTL)	CK2020-G-CMC	Printed Circuit Board Assy	
Q351,352	2SC2258	Transistor	
Q354	2SC2258	Transistor	
R351,352	ERG2ANJ123	Metal	12K ohms 2W
R366-368	ERDS2TJ331	Carbon	330 ohms 2W
R369-371	ERDS2TJ332	Carbon	3.3K ohms 2W
R372-374	ERDS2TJ101	Carbon	100 ohms 2W
R375	ERDS1TJ272T	Carbon	2.7K ohms 1/2W
R376	ERG2ANJ123	Metal	12K ohms 2W
R386,387	ERDS1TJ272T	Carbon	2.7K ohms 1/2W
C350	ECKF1H331KB	Ceramic	330 pF
C351	ECKF1H561KB	Ceramic	560 pF
C352	ECKF1H471KB	Ceramic	470 pF
C353	ECKF1H561KB	Ceramic	560 pF
C354	ECKW3D821KBN	Ceramic	820 pF
C356	ECKD2H103PE	Ceramic	0.01 µF
C357	ECQM2223JZ	Plastic	0.022 µF 200V
CN1(JK14) ⚠	TJSC4C9101	CRT Socket	
CN11	CK2020A11S5	Wire Assy for Main Board CN11	
CN12	CK2020A12S4	Wire Assy for Main Board CN12	
LED BOARD			
PCB3 (RTL)	CK2020-G-CML	Printed Circuit Board Assy	
D1051	SLR-56VC3FN	LED	
CN1 (L1)	TJS5A8750	3-pin Connector	
M30	TMM4C1A059	LED Spacer	
ACCESSORY PARTS / PACKAGING PARTS			
M51 ⚠	TQB4C1A189	Operating Instructions	
M52	TPE4C1A00201	Polyethylene Bag	
M53	TPE4C1A014	Polyethylene Sheet	
M54	TPD4C1A016A	PAD Complete	
M55	TPC4C1A23401	Packing Case (IN)	
M56	TPC4C1A23901	Packing Case (OUT)	
M57	TQF4C1A061	Bar Code Label	

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